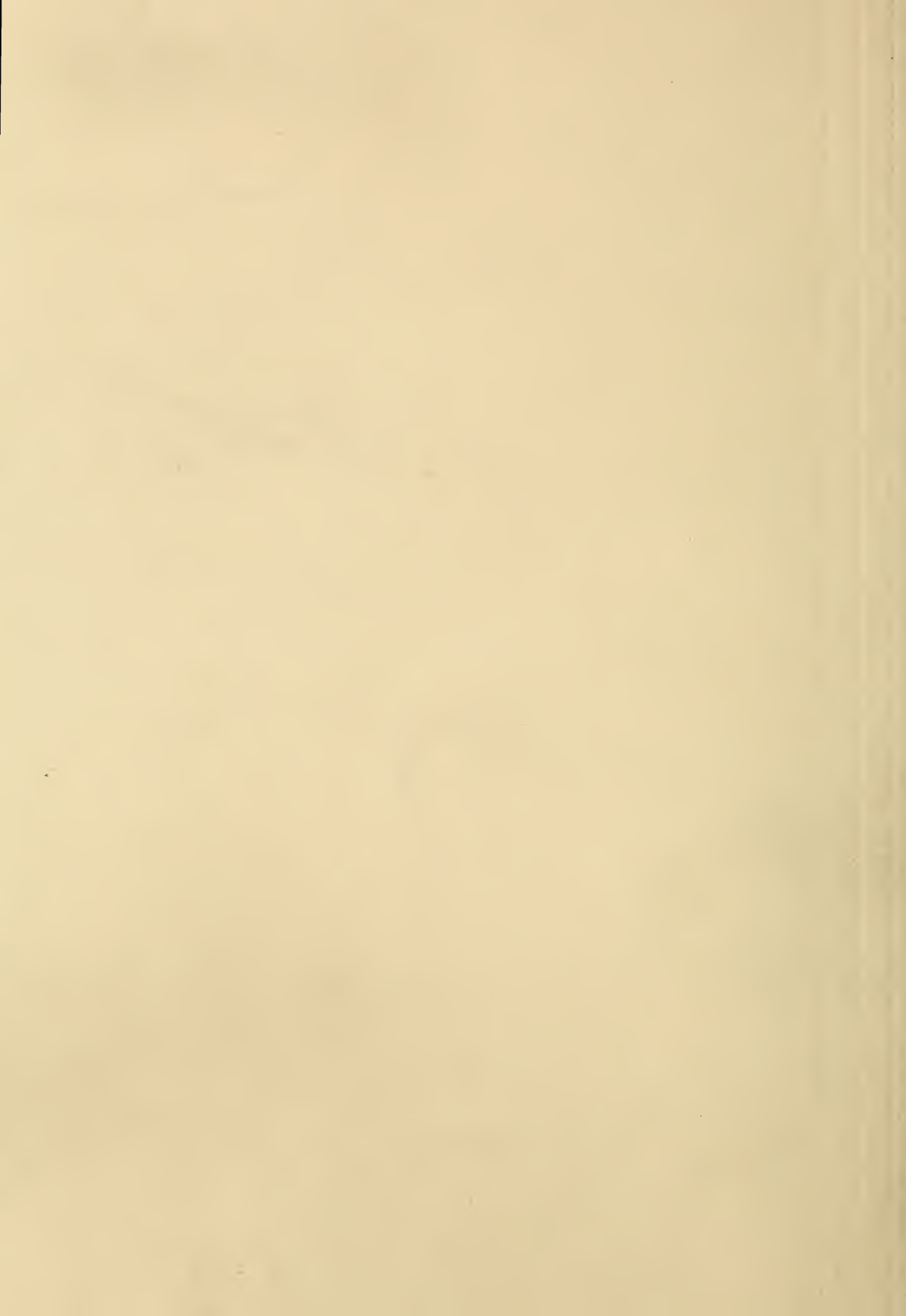


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VOL. XVIII. NO. 8.

APR. 15, 1890.

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AUG 26 1894

DEPARTMENT

PEACE ON EARTH
★ GOD WILL COME
TO MEN



CLEANING
IN

BEE CULTURE

DEVOTED
TO
BEEKEEPING

& HOME INTERESTS.

MEDINA, OHIO

BY

AL ROOT

TERMS, ONE DOLLAR PER YEAR.

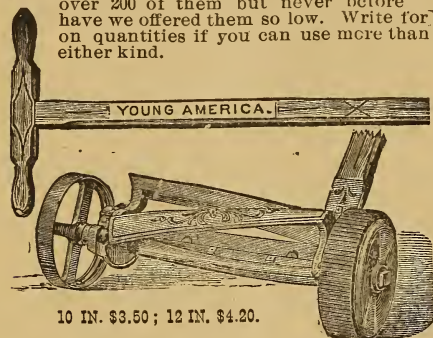
W. FAIRBANKS, DUNELER, N.Y.

ENTERED AT THE POSTOFFICE, MEDINA, OHIO, AS SECOND-CLASS MATTER.

YOUNG AMERICA

LAWN MOWER.

The cheapest machine offered anywhere. Many prefer them to one with two drive wheels because they run so easily, and are so light. They are just right for running among the hives. For the ladies who appreciate outdoor exercise you could have nothing better than a 10-inch Young America lawn-mower to keep the grass down on the lawn. We have sold over 200 of them but never before have we offered them so low. Write for prices on quantities if you can use more than one of either kind.



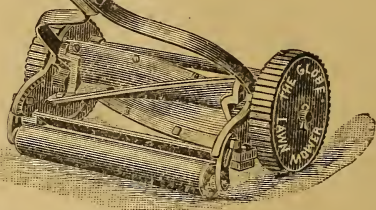
10 IN. \$3.50; 12 IN. \$4.20.

THE GLOBE LAWN-MOWER.

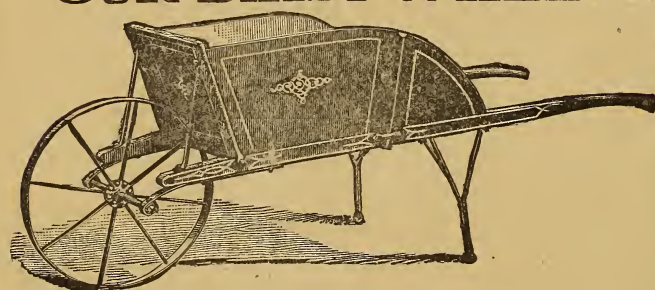
Guaranteed a First-Class Machine. The Globe lawn-mower shown in cut combines all the best features, and is a first-class mower in every respect. Having only three knives it will cut longer grass than those having four. The axle of the drive-wheel does not project, so that you can run close to the hive. It has two drive-wheels and roller, and the driving gears are simply perfect. The prices are very much lower than on any other first-class mower.

TABLE OF PRICES:

	LIST	OUR
	PRICE	PRICE
10 in. Globe....	(\$13.00)...	\$4.55
12 " "	(15.00)...	5.25
14 " "	(17.00)...	5.95
16 " "	(19.00)...	6.65
18 " "	(21.00)...	7.35



OUR DAISY WHEELBARROW.

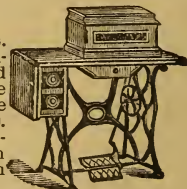


Who has not felt the need of a Light, Strong, and Durable, and at the same time Cheap wheelbarrow? The cut shows one that combines all these qualities better than any other we have ever seen. We have two sizes—the smaller one weighing only 35 lbs., and yet it will carry 500 lbs. safely, and it can be packed so closely together for shipment that you can take the whole thing under your arm and walk off easily. The wheel has flat spokes instead of round. The legs are steel, so they will neither break nor bend, even if you bump them on the sidewalk.

The springs are oil-tempered with adjustable bearings, so the wheel will always run free. More than all, the wheelbarrows are the nicest job of painting and varnishing, I believe, I ever saw, for a farm implement. They are handsome enough to go around town with, and strong enough to do heavy work; and yet the price of the small size No. 3 is only \$4.00; the larger size No. 2 is \$4.25. Over 200 sold in 8 months

SINGER SEWING-MACHINE, \$11 TO \$16.

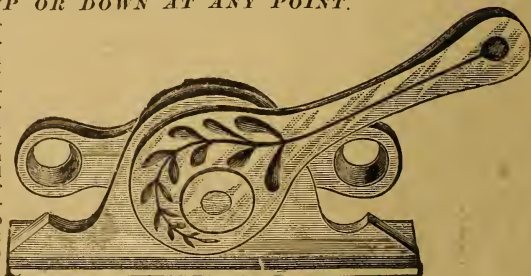
Made from latest models; first class in every respect, and warranted for 5 years. A boon to many an overworked housewife who can not afford to pay the price usually asked by agents. Cut shows No. 3. No. 1 is the same without the cover, leaf, and two drawers. Price \$11.00. No. 2 has a cover, but no leaf or side drawers. Price \$12.50. No. 3, as shown in the cut, price \$14.00. No. 4, same as No. 3, with 2 more drawers to the right. Price \$15.00. No. 5 has 3 drawers on each side. Price \$16.00. Wood parts are oil polished, walnut; balance-wheel is nickel plated, and each machine includes a full set of attachments, with instructions for use. We ship them direct to customers from factory in Chicago. We have a catalogue giving cut of each machine and full description which we shall be pleased to mail on application.



BUCKEYE SASH-LOCK.

A DEVICE TO FASTEN WINDOWS UP OR DOWN AT ANY POINT.

For many years I have been trying to get something better to hold a window up than a stick or book, or something of that sort; but although we have tried them, even paying as high as 75 cts. per window, I have never had any thing please me so well as the one here shown. This device holds the sash securely by friction in any desired position, as tight as if it were in a vise. It prevents the sash from rattling, and excludes the dust by making tight joints, and yet it does not mar the wood. It is put on with two screws, and can be fitted by an inexperienced hand in three minutes. It works equally well on upper or lower sash, with or without weights. Printed instructions are furnished with each one, as well as screws to fasten them on with, and yet the price is only 5 cts.; 1 doz. for 50 cts.; 100 for \$4.00. If wanted by mail, add 5 cts. each extra. The above are japanned.



A. I. ROOT Medina, Ohio.

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In responding to this advertisement mention GLEANINGS.

DON'T FIDDLE FOUNDATION. H. L. GRAHAM, Letts, Iowa.

WRITE FOR PRICES.

In responding to this advertisement mention GLEANINGS.

\$6.00 Will Buy in 1890,

One of our Best Hives of Italian Bees with
Tested Queen, or 5 for \$25.00.

In Simplicity or L. 10-frame hives; 250 colonies to 4-9db draw form. Address

JNO. A. THORNTON, LIMA, ADAMS CO., ILLINOIS.

In responding to this advertisement mention GLEANINGS.

24 COLONIES ITALIAN BEES for sale in good condition, on 7 Langstroth frames, in shipping-boxes, at \$3.00 per colony.

WM. AMELANG,
Ottumwa, Wapello Co., Iowa.

EARLY QUEENS

1	Untested queen,	April	\$1.00.	May	\$1.00.
3	"	"	3.00.	"	2.50.
1	Tested	"	2.00.	"	2.00.

Special discounts to dealers. Safe arrival guaranteed.

W. J. ELLISON,

7-8 9d Stateburg, Sumter Co., S. C.

In responding to this advertisement mention GLEANINGS.

FOR SALE.

A fine lot of spider, or Grayson Lily Bulbs, which I will sell. Small bulbs 25c, large ones 50c. Very beautiful and fragrant, pure white. I also have 40 or 50 stands of mostly Italian bees for sale. Will sell Queens in April. Would exchange bees for registered Jersey heifer.

S. G. WOOD,
BIRMINGHAM, JEFF. CO., ALA.

In responding to this advertisement mention GLEANINGS.

DADANT'S FOUNDATION

Is kept for sale by Messrs. T. G. Newman & Son, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; O. G. Collier, Fairbury, Nebraska; G. L. Tinker, New Philadelphia, Ohio; E. S. Armstrong, Jerseyville, Ill.; E. Kretschmer, Red Oak, Iowa; P. L. Viallon, Bayou Goula, La.; Jos. Nysewander, Des Moines, Ia.; C. H. Green, Waukesha, Wis.; G. B. Lewis & Co., Watertown, Wisconsin; J. Mattoon, Atwater, Ohio, Oliver Foster, Mt. Vernon, Iowa; C. Hertel, Freeburg, Illinois; Geo. E. Hilton, Fremont, Mich.; J. M. Clark & Co., 1517 Blake St., Denver, Colo.; Goodell & Woodworth Mfg. Co., Rock Falls, Ill.; E. L. Gould & Co., Brantford, Ont., Can.; R. H. Schmidt & Co., New London, Wis.; J. Stauffer & Sons, Nappanee, Ind.; Berlin Fruit-Box Co., Berlin Heights, O.; E. R. Newcomb, Pleasant Valley, N. Y.; L. Hansen, Davenport, Ia.; C. Theilmann, Theilmanton, Minn.; G. K. Hubbard, Fort Wayne, Ind.; T. H. Strickler, Solomon City, Kan.; E. C. Eaglesfield, Berlin, Wis., and numerous other dealers.

LANGSTROTH on the HONEY-BEE, REVISED.

The Book for Beginners, the Most Complete Text-Book on the Subject in the English Language.

Bee-veils of Imported Material, Smokers, Sections, Etc.

Circular with advice to beginners, samples of foundation, etc., free. Send your address on a postal to

CHAS. DADANT & SON,
HAMILTON, HANCOCK CO., ILLINOIS.

In responding to this advertisement mention GLEANINGS.

BUSINESS.

I will be prepared by April 10th to ship untested queens bred from my fine strain of non-swarming Italians. Price \$1. These bees are gentle, prolific, and fine honey-gatherers. Satisfaction and safe arrival guaranteed. If by chance a queen should prove not good I will gladly replace her when notified of the fact.

R. B. WILLIAMS,

6-7-8d Box 72. Winchester, Tenn.

In responding to this advertisement mention GLEANINGS.

New Orleans Apiaries for 1890

Orders are now taken for early ITALIAN and CARNIOLAN guaranteed Queens. Send for price list of Best and Cheapest Apian Supplies offered.

Address
J. W. WINDER,
67db 572 Magazine St., N. O., La.

In responding to this advertisement mention GLEANINGS.

BEES FOR SALE

COLONIES,
NUCLEI,
AND QUEENS,

at living rates. Send for
circular and price list to

C. C. VAUGHN & CO.,

47db Columbia, Tenn.

In responding to this advertisement mention GLEANINGS.

SECTIONS.

\$2.50 to \$3.50 per M. Bee-Hives and Fixtures cheap.

NOVELTY CO.,

67db Rock Falls, Illinois.

In responding to this advertisement mention GLEANINGS.

The SWARM-HIVER.

Sent by mail, and the American Apiculturist one year, \$1.50. Circulars and sample copies free.

Address
AMERICAN APICULTURIST,
57db Wenham, Mass.

In responding to this advertisement mention GLEANINGS.

Wants or Exchange Department.

WANTED.—To exchange job printing, garden and farm seeds, plants, eggs for hatching, and other articles, for bee-supplies or offers. Free lists.
6-8d H. A. HUBBARD, New Lisbon, Ots. Co., N. Y.

WANTED.—To exchange all kinds of wall paper, for honey. 1tfdb J. S. SCOVEN, Kokomo, Ind.

WANTED.—To exchange 200 colonies of bees, in S. hives, for any thing useful on plantation.
1tfdb ANTHONY OPP, Helena, Ark.

WANTED.—To exchange foundation, for beeswax. Sample on application.
5tfdb Avery's Island Apiary, Avery, La.

WANTED.—To exchange empty Simp. L. combs at 10 cts. each, for wax or offers. 5tfdb
OLIVER FOSTER, Mt. Vernon, Linn Co., Iowa.

WANTED.—To exchange one Green's solar wax-extractor, *new*, for an incubator or Italian queens.
6tfdb G. C. HUGHES, Pipestem, West Va.

WANTED.—To exchange thin fdn. for honey. 5d
C. W. DAYTON, Bradford, Ia.

WANTED.—To exchange a handsome male Scotch collie for Italian bees. ROBERT WALLACE,
6d Turkey, Mon. Co., N. J.

WANTED.—To exchange cherry, currant, strawberry, blackcap and blackberry stock, for extracted honey for bee-food, or offers
G. H. ASHBY, Albion, N. Y.

WANTED.—To exchange Ohio Valley wire and picket fence machines for bees and bee-supplies. Circulars free. JAS. M. MANGOLD & BRO.,
Moundsville, Marshall Co., W. Va.

WANTED.—To exchange foundation at 40 and 50 c. per lb. for any quantity of nice yellow wax at 28 cts. per lb. B. CHASE, Earlville, N. Y. 7 8d

WANTED.—To exchange a general-utility hand-cart, good as new. Write for particulars.
A. F. BRIGHT, Mazepa, Minn. 7tfdb

WANTED.—To exchange eggs for hatching, from imported Black Minorcas, for bees and queens. Safe arrival guaranteed. Circulars free. 7tfdb
LESLIE STEWART, Jefferson, Scho. Co., N. Y.

WANTED.—To exchange one set buggy harness, worth \$10.00, for Langstroth or Simplicity beehives. JNO. GRANT, Batavia, Clermont Co., O. 8-9-10d

PLY. Rocks, White and Laced Wyandotte eggs, in exchange for foundation, sections Japanese buckwheat, or offers. T. G. ASHMEAD,
8tfdb Williamson, Wayne Co., N. Y.

WANTED.—To exchange fruit-trees, strawberry, red-raspberry plants and sewing-machines, for bees and honey. E. PETERMAN, Waldo, Wis. 8-8d

WANTED.—To exchange comb foundation for beeswax. Samples on application. 8-11db
J. P. CONNELL, Hillsboro, Texas.

WANTED.—Untested Italians for glass-front veil, postpaid. Send queens till May 1st to
8d J. C. CAPEHART, St. Albans, W. Va.

WANTED.—100 black and hybrid queens, 20 cts., for which I will exchange extracted honey at 7 cts. No cross desired, except Italian and back. If you have any to spare, correspond with
8 9d A. J. NORRIS, Cedar Falls, Ia.

WANTED.—To exchange team, harness, and wagon, for small apiary or real-estate property, in Wis. basswood belt, Northern Missouri, or Southern Iowa, as part payment; near R. R. station, and suitable for apiary. Location among good society, and in good bee-pasture, wanted only. Japanese buckwheat, and books, exchanged for bees and supplies. Correspondence solicited. S. ROESE,
8d Maiden Rock, Wis.

WANTED.—Japanese buckwheat, alsike and white clover seed, in exchange for apiarian supplies. L. J. TRIPP, Kalamazoo, Mich. 7tfdb

WANTED.—To exchange a 6 x 9 self-inking press, with type, for a Barnes foot-power circular saw, and a 2-foot telescope, for 4-inch foundation rolls, or offers. L. L. E-SHOWER, Reading, Pa.

WANTED.—To exchange printing-presses, type, etc. I want a saw-table, foundation, apiarian supplies. L. CLARK, Wiscoy, Minn.

WANTED.—To exchange one new tri-bellows, 10-keyed, 6-stop German accordion, fancy instrument, worth \$10; one new Waterbury watch and chain, also a 75-photo. design canvassing outfit for marble-yard, \$5.00, for circular saws, extractor, or foundation-mill, and one Cook's Manual, and a lot of magazines, for A B C books (Root's).
8d J. H. MARKLEY, Carbondale, Kan.

WANTED.—To exchange cold-frame Cabbage Plants, J. Wakefield (March's seed) and All Seasons; cold-frame Lettuce P'ts. G. Rapids and Barr's Mam. Asparagus Roots, for bees or beeswax. Write. EDW'D B. BEEBEF, Oneida, N. Y.

WANTED.—To exchange Snyder & Kitatiny Blackberry and Capt. Jack, Crescent, Old Iron-clad, and other excellent sorts of strawberries, and some water-lily bulbs (Nymphæa) for Italian queens or hives, foundation, and other supplies for the apiary. J. T. HARNES, Warrensburg, Mo.

WANTED.—Nice maple sugar. Will exchange prize Light Brahmas or eggs for hatching, or Italian bees. Stock superior. Catalogue free.
8d Box 240. CHAS. MCCLAVE, New London, O.

Black and Hybrid Queens For Sale.

Black queens, 3 for one dollar; also a few hybrids.
5tfdb H. HIZ HART, Avery P. O., Iberia Par., La.

Hybrid queens, in May, 40 cts. each; 3 for \$1.00.
MILES GARDNER, Severy, Greenwood Co., Kan.

Hybrid queens for sale, all the season of 1890, at 35c, or 3 for \$1.00. Safe arrival guaranteed.
E. S. VICKERY, Hartwell, Hart. Co., Ga.

Three black queens for \$1.00. IRA JOHNSON,
Manor, Travis Cr, Texas.

I have 30 mismated Italian queens that I will sell for 80c each, or \$1.00 for 4, or \$2.90 per dozen. I guarantee safe arrival.
J. W. TAYLOR, Ozan, Hempstead Co., Ark.

HA! HA! MY BEES ARE BED-ROCK.
If you don't believe it, write for prices, and be convinced. Also, eggs from 5 different kinds of poultry. This will not appear again. 8J
J. A. KIME, Fairfield, Pa.

In responding to this advertisement mention GLEANINGS.

WANTED.—To exchange Japanese buckwheat, Root's price; Laced Wyandotte eggs \$1.00 per 13, from selected stock; also bees, for seed potatoes; early varieties preferred; Bingham smokers, or offers. F. W. DEAN, New Milford, Pa. 7d

EGGS.

Pure Spangled Wyandottes, 13 for 75 cts. I will tell HOW TO PLATE KNIVES, for \$1.00, or eggs and plating for \$1.50. MRS. SAM'L JACK,
8d Richmond Center, Ashtabula Co., Ohio.

In responding to this advertisement mention GLEANINGS.

TESTED CARNIOLAN QUEENS. \$2.50 each; untested, \$1, or 6 for \$5. Send for price list of Italian bees and queens, bred in my Nappanee apiary. 8tfdb I. R. GOOD, Vawter Park, Ind.

"VALLEY-FARM APIARY."
Will sell 30 colonies of Hybrid and Italian bees, in Simplicity hives. To be shipped early in May, 1890. Many of the queens were bred from Mr. Doolittle's \$1.00 tested queen. Address
G. WIEDERHOLD, YONKERS, N. Y. Opp. Dunwoody Station.
In responding to this advertisement mention GLEANINGS.

HONEY COLUMN.

CITY MARKETS.

KANSAS CITY.—*Honey.*—The supply of white one-pound comb honey is very limited. We could sell ten or twenty thousand pounds more of fancy 1-lb. comb before new crop comes in. Extracted is selling very slow. We quote fancy 1-lb. white comb, 13; choice 1-lb. white comb, 12; fall 1-lb. amber, comb, 9@10; fall 2-lb. amber, comb, 9@10; choice 2-lb. white comb, 11@12; extracted, white, 7; extracted, amber, 5@6. *Beeswax*, none in market.

Apr. 7. CLEMONS, CLOON & Co.,
Cor. Fourth and Walnut Sts., Kansas City, Mo.

MILWAUKEE.—*Honey.*—The demand for honey has been very good, and a fair trade enjoyed since last report. The supply continues fair, and we think will prove adequate to meet the demand. We can now quote white 1-lb. sections, 12@13; sometimes for exceptionally fine, 14; medium quality, 11@12; 2-lb. sections, hard to sell. Dark, 9@10; extracted, white, 7@8; extracted, dark, 6@6½. *Beeswax* wanted, 2½@26.

Apr. 8. A. V. BISHOP,
Milwaukee, Wis.

CHICAGO.—*Honey.*—Comb honey has sold well for the past 30 days, and there is very little now on the market. Prices have been 13 cts. for white comb in nice shape; 14 cts. fancy; dark comb, 8@10 cts., and when in poor shape, not wanted. Extracted, 6@8, *Beeswax*, 27@28.

Apr. 8. R. A. BURNETT,
161 So. Water St., Chicago, Ill.

ST. LOUIS.—*Honey.*—Market very quiet. We quote choice white-clover comb, 13@13½. Inferior and dark, 9@10. Extracted and strained, in barrels, choice white, 5½. Dark, 4½@5. Same in cans, choice white, 6@8. Dark, 5@6½. Prime yellow beeswax, 25.

Apr. 9. D. G. TUTT GROCER CO.,
St. Louis, Mo.

BOSTON.—*Honey.*—We quote our market at 16@17 cts. for fancy one-pound comb honey; very little in the market. Two pound, 15 cts. Extracted, 8@9 cts. No *beeswax* on hand. *BLAKE & RIPLEY*,
Apr. 9. 57 Chatham St., Boston, Mass.

DETROIT.—*Honey.*—Comb honey is selling slowly at 10@13 cts. Extracted, 7@8 cts. *Beeswax* scarce at 26@27 cts.

March 24. M. H. HUNT,
Bell Branch, Mich.

NEW YORK.—*Honey.*—Comb honey all sold; of extracted, we have a small stock on hand; market quiet. *Beeswax* is in good demand at 25@27 cts. per lb. Stocks small. F. G. STROHMEYER & Co.,
Apr. 9. New York.

KANSAS CITY.—*Honey.*—Our honey market is good. All shipments are closed out. We quote 1-lb. comb, white, 12@13; 2-lb., white, 10@11; 1-lb., comb, dark, 8@10; 2-lb., dark, 8@9. Extracted, white, 6@6½. Dark, 5½.

Apr. 5. HAMBLIN & BEARDS,
Kansas City, Mo.

ALBANY.—*Honey.*—We are almost entirely out of both comb and extracted. No change in prices. Clover, 12@14. Mixed, 10@12. Buckwheat, 8@10. Extracted, light, 8@9; dark, 6@7.

Apr. 9. C. McCULLOCH & Co.,
339 Broadway, Albany, N. Y.

CINCINNATI.—*Honey.*—Demand is good for choice white comb honey at 12@15 cts. per lb. in the jobbing way. Dark comb honey sells very slow. Extracted honey is in good demand at 6@8 cts. on arrival. Our stock runs short. There is a good demand for *beeswax* at 22@25 cts. for good to choice yellow on arrival.

Apr. 9. CHAS. F. MUTH & SON,
Cincinnati, O.

FOR SALE.—Extracted honey in 60-lb. cans, at 8 cts. for clover and 7 for heartsease.

R. I. BARBER, Bloomington, Ill.

WANTED.—60-lb. can, clover or basswood or any light-colored honey. I will pay 7 cts. cash, and allow for can. D. M. WEYBRIGHT, New Paris, Ind.

Where Do You Live?

If you will let me know I will send you our circular for 1891, which will tell you all about the **Hive** we are selling for 55 cts.; and if you want 25 we can let you have them for 49 cts. Also 100 brood-frames, \$1.00.

WM. H. BRIGHT,

N. azeppa, Minn.

In responding to this advertisement mention GLEANINGS.

TAKE NOTICE!

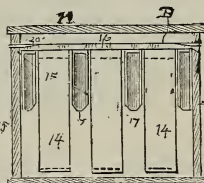
BEFORE placing your Orders for **SUPPLIES**, write for prices on One-Piece Basswood Sections, Bee-Hives, Shipping-Crates, Frames, Foundation, Smokers, etc. Address

R. H. SCHMIDT & CO.,

21-20db NEW LONDON, Waupaca Co., WIS.

In responding to this advertisement mention GLEANINGS.

\$1.50 DOUBLE-WALLED HIVE.



I make my improved spacer with the downward-extending arms nearly as long as the end-bars of the frames, and with suitable division-boards in place of the outside combs. A hive is converted into a double-walled hive with the spaces at the ends of the frames closed,

which is a great aid to a weak colony in building up in the spring, if the hive is well packed on top of the frames.

Price of brood chamber and 8 frames.....\$1.50
One hive and 1 dozen extra spacers..... 4.00
Spacers, long or short arm, per 10020.00

These prices are for frames ¾ inch wide. When ordering, give the width of your hive inside.

J. B. WILCOX, - - MANISTEE, MICH.

Please mention GLEANINGS. 6-11db

CHENANGO VALLEY APIARY.

Please give me your order. Two-frame nucleus, ders, and try my fine yellow queen, in June, \$2. low Italian queens; are Tested queen, \$1.50; unfrom imported stock, Tested, \$1.00. well known to my customers. Send for circular. Mrs. OLIVER COLE, Sherburne, Che. Co., N. Y.

In responding to this advertisement mention GLEANINGS.

BEEES FOR SALE CHEAP

Before May 1. Twenty colonies in first-class hives, Adair frame. Also hives and cages.

Z. & F. E. HATHAWAY, Middle Falls, Wash. Co., N. Y.

In responding to this advertisement mention GLEANINGS.

FOR SALE - - BEES.

Good colonies in shipping-cases, with 9 Langstroth frames. Italians, \$4.50. Hybrids, \$3.50, delivered at railroad station any time after May 1.

8ftdb MISS MABEL FENN, Tallmadge, Ohio.

In responding to this advertisement mention GLEANINGS.

CHOICE EGGS from prize winners; 9 varieties. Send for catalogue. M. HURD, Marshall, Mich. 8-9d

BARRED PLYMOUTH ROCK EGGS, \$1.00 per 13. L. C. AXTELL, Roseville, Ill. 8ftdb

SEEDS. Six pkts. of my choicest Flower Seeds, 10c. Beautiful catalog free. F. B. MILLS, Thorn Hill, N. Y.

4-FRAME NUCLEI, Tested Queen, Brood, and plenty of Bees, Italians, for \$3.50. Imported queens, \$1. W. A. SANDERS, Oak Bower, Hart Co., Ga.

CARNIOLAN QUEENS AND BEES.

I make this race of bees a specialty. Untested queens after June 1st, \$1.00 each. Send for circular and price list to

A. L. LINDLEY,

6ftdb Jordan, Ind.

In responding to this advertisement mention GLEANINGS.

SPECIAL CROPS.

A magazine for advanced agriculturists; 25 cts. per year; sample 7 cts. Also, Black Minorcas, B. Leghorns, and S. Wyandottes; eggs of either, per setting, 75 cts.; 26 at one time, \$1.00. 4-50d

C. M. GOODSPEED, Skaneateles, N. Y.

☞ In responding to this advertisement mention GLEANINGS.

BEE-KEEPERS' SUPPLIES.

We are prepared to furnish bee-keepers with supplies promptly, and at greatly reduced rates. Estimates gladly furnished, and correspondence solicited. Our goods are unexcelled in quality and workmanship.

Italian Queens and Bees at a very low price. Send for large illustrated price list, free. Alley's Queen and Drone Trap and Swarm Hiver always on hand.

A. F. STAUFFER & CO.,
Sterling, Ill.

Japanese Buckwheat, 75c Per Bush.

Alsike clover seed, \$7.00 per bush. No. 1 one-piece sections, \$3.00 per M. Extra nice foundation, thin, 50c per lb.; brood, 45c. Best bee-veil out, only 30c. All supplies cheap. Send for new list free. 22tfdb

W. D. SOPER,

Box 1473. Jackson, Mich.

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COMB FOUNDATION MILLS.

Made by **W. C. PELHAM,**

7-8-9d **Maysville, Ky.**

BROWN LEGBORNS STILL AHEAD. EGGS, \$1.00 PER 13, \$1.50 PER 26. **A. F. BRIGAT, Mazeppa, Minn.** 7tfdb

The Georgia Bee & Honey Co.

Has 100 colonies of Italian bees for sale. \$3.50 each, or \$3.00 taking the lot. Address **W. A. PROFFITT,** 7-8d **Hartwell, Hart Co., Ga.**

Look Here! Supplies Cheap

Italian and Albino Queens and Bees; Chaff and Simplicity and Nonpareil Hives. Extractors, Smokers. Foundation, Surplus Section Boxes, Roofs Perforated Zinc. Price List Free. Write for One.

A. A. BYARD, WEST CHESTERFIELD, CHESHIRE CO., N. H.

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EGGS! PURE BRED P. ROCK, LT. BRAHMA, W. & L. WYANDOTTE, and BLK. MINORCAS. \$1 FOR 13; \$1.75 FOR 26. 7-8-9d **J. D. BRANDS, P. M., Warrington, N. J.**

To Your Interest.

Before ordering elsewhere write me for price of *Strawberry Plants*. Will spare a few strong 3-frame nuclei on L. wired frames. Italian queen and all, \$2.50. 7-8d

DAN WHITE,
New London, Huron Co., O.

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SEND your address on postal card for my circular of thoroughbred poultry. **E. J. KENNEDY,** 7-8-9d **Troy, Pa.**

L. Wyandott - EGGS - W. Leghorn.

Thirteen for \$1.00. 7tfdb

P. BROWER, New Paris, Elkhart Co., Ind.

Tested Italian Queens, \$1

With nuclei, containing two or more pounds of bees on one, two, three, or four frames, at 75c per pound. Untested queens, 75c each. See March GLEANINGS. **LUTHER W. GRAY,** 7tfdb **Orlando, Fla.**

EGGS FOR HATCHING! L. Brahma, P. Rock, R. C. B. GET Leghorn, P. Duck, \$1.25 per nest; 2 nests, \$2. THE White P. Rock, W. C. B. Polish, \$1.50 per nest. BEST Circular free. **S. P. YODES, East Lewistown, Ohio.**

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SEEDS. Don't buy your seeds or plants till you see my FREE 1890 catalog. I offer something wonderful. Send for it. **F. B. MILLS, Thorn Hill, N. Y.**

APIARY FOR SALE

At \$5.00 per colony, also R. C. B. Leghorn eggs, \$1.00 per 13; prize-winning stock. Address **S. F. REED, W. Dorchester, N. H.** 7-8d

ALSIKE CLOVER SEED.

Retail and wholesale. Ask for price list. 7-8-9d **E. S. HILDEMAN, Ashippun, Dodge Co., Wis.**

FOR SALE:—50 colonies of Italian hybrid bees in Simp. and Heddon hives. \$2 to \$5 per colony.

FOR SALE:—A Given foundation press, 2 dies.

FOR SALE:—A Young American Lightning-press chase, 4½x6.

Particulars upon application. **J. H. MARTIN,** 7-8d **Hartford, Washington Co., N. Y.**

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Friends, if you want any **Poland-China Pigs** please write to me and you will be surprised at my low prices and good quality of stock. **N. A. KNAPP, Rochester, Lorain Co., O.**

Pure Italian Queens.

We will sell pure Italian queen bees, bred from pure mothers, by April 1. Tested, \$1.00; untested, 50c; two frame nuclei and tested queen, \$2.00, or untested, \$1.50.

I. COOD & STEWART BROS.,
Sparta, White Co., Tenn.

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Italian Bees and Queens.

Tested queen, \$1.50; untested, \$1.25. Bees per lb., \$1.00. Frame of brood, 50 cts.; 3 frame nucleus, containing 2½ lbs. of bees, 2 L. frames of brood and tested queen, \$4.50. Queens reared from imported mother. Mismatched queens, 50 cts. each. Send card for price list. **Mrs. A. M. KNEELAND (nee Taylor),** 7-8d **Box 77, Mulberry Grove, Bond Co., Ill.**

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PURE ITALIAN BEES & QUEENS.

Full colonies and nuclei, per frame, 60c. Tested queens, \$2.00; after June 1, \$1.50. Untested queens, \$1.00; after June 1, 75c. Remit by post-office money order, registered letter, or draft on New York. For any other information, address

C. W. JONES & CO.,
4-9db **Bryant Station, Maury Co., Tenn.**

125 COLONIES ITALIAN BEES AT BOTTOM PRICES. **A. F. BRIGAT, Mazeppa, Minn.** 7tfdb

INDUSTRIAL HIVES.

We manufacture hives with latest and best improvements. The **LYMAN INVERTIBLE** and **CLARK UNION** brood-frames are united with Sectional honey boards. Do not stock up with old-style goods before sending for descriptive list. Sample hive, complete, \$2.35, or frame, postpaid, 25 cts. Fine Italian queens, etc., etc.

—d **J. W. CLARK, Clarksburg, Mo.**

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REVIEW OUR 1890

16-page circular of bee-keepers' supplies, etc. Also note prices of our choice strain of Italian bees. Circular free. Address **JNO. NEBEL & SON,** 5tfdb **High Hill, Mo.**



Vol. XVIII.

APR. 15, 1890.

No. 8.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.

PUBLISHED SEMI-MONTHLY BY

A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18 cts. per year extra. To all countries NOT of the U. P. U., 42 cts. per year extra.

TAKING A VACATION.

VALUABLE HINTS FROM A. E. MANUM ON WINTERING; BURR-COMBS, BEE-HOUSES, ETC.

Friend Root:—Did you ever get left at a way station in a dark stormy night in a strange country, and alone? I have, and I will tell you how it happened. For a year or more I had promised our friend J. H. Larrabee a visit; and having finally set the time I started out, Feb. 14, taking the train at our station. I arrived at Larrabee's Point, a mere crossing, at 7 P. M.—30 minutes late, having been carried past by the carelessness of the conductor, to whom I introduced myself in such a manner that I venture to say he will not very soon forget Manum the bee-man. He, however, soon felt it his duty to set me back on shore—we then being half way across Lake Champlain—which was done by the use of a hand-car. Arriving at the station, nothing could be found of my friend John, he having returned after seeing the train skip past without stopping. There I was in a strange country, in a dark rainy night, with no one near me except the conductor of the hand-car, of whom I inquired whether he knew Mr. John Larrabee, the bee-man.

"Oh, yes! I know him well."

"How far is it to his home?"

"About two miles."

"Are there any people near here where I can get a team?"

"There is the nearest house away yonder, where you see the light, but they have no team."

"Can you direct me to Mr. Larrabee's?"

"Yes. Take this road north a short distance, and turn to the right; then to the left, and then to the right; and after you pass the schoolhouse, turn to the left, and it is the first house on the right."

So after thanking the good man, Manum, the bee-

man, drew a long breath, and, with a heavy grip-sack in one hand and camera and tripod in the other, I started in a drenching rain, with about two inches of slippery clay mud under foot. You can better imagine how I enjoyed that walk than I can tell you. I will simply say it was glorious.

After walking, seemingly, for several miles, I saw—as I supposed—the long-looked-for schoolhouse, and I was rejoicing at the prospect of soon having the privilege of laying off my wet and now heavy overcoat; but as I neared the object it proved to be a large haystack. So with all the courage imaginable I plodded on, to again and again experience the same disappointment of mistaking a hay-stack for a schoolhouse. At last the looked-for schoolhouse was reached. So, after slipping and slewing in the mud a short distance further, I walked up to a very fine-looking farmhouse and knocked at the door, and it was opened by a very pleasant lady, in whose presence I at once felt at ease.

Mr. Root, what a vast difference there is in the reception one receives, and the feelings one experiences, on entering a stranger's house! I have entered houses where I at once felt more like retreating than advancing, while at others I have at once felt at home, and dreaded to depart; and this occasion proved to be one of the latter. Looking at me, Mrs. Larrabee exclaimed—for she proved to be John's mother—"Why, is this Mr. Manum?"

"That was my name when I left home; but I hardly know now what to call myself."

"Yes, mother, this is Mr. Manum," exclaimed young Walter, as he advanced with extended hand.

"Where is John? He went to the station to meet you," exclaimed the good father, as he also advanced to welcome me. Shortly after, John came in and explained that the train, not stopping, he concluded

I had not come, so he drove to the postoffice after his mail, and so I missed him.

After partaking of a hearty supper we retired to the parlor, where we had a very enjoyable bee-convention. I found that each member of the family was interested in John's bees, and that all read the various bee-journals, of which John is a subscriber as well as an able correspondent when he can be induced to put his thoughts on paper.

I had not been in the parlor long before I saw evident traces of Rambler's visit at this country home of the honey-bee, and I was often impressed with the thought that our friend Rambler must be a very busy and industrious Rambler indeed, judging from the many photographic prints he left in that pleasant home. After discussing the new method of "raising honey on a fork," my friend John asked several questions as follows:

"Mr. M., what is your opinion in regard to the bees wintering well this mild winter?"

"Well," said I, "owing to the fact that our bees stored more or less honey-dew last fall, I think the mild winter, which has given them an opportunity to fly often, has been very favorable so far as disease is concerned. My only fear is now that they will, owing to this warm weather, commence breeding too early, so that, if we should have an unfavorable March and April, the bees will very likely suffer during the spring, owing to chilled brood which they would likely have. But should March and April be favorable they will come out strong and healthy during the spring."

"Have you seen any signs of diarrhea among yours?"

"No, not in the hives; but each time they have a fly they spot things pretty well. Hence I say the several flights they have had, I think, has saved them so far."

"Do you find that your colonies have shrunk very much in bees?"

"No, not as much as some years, owing, I think, to the fact that last fall they flew solate and worked so hard that the old bees nearly all died off before winter set in; and when I packed my bees I remarked to my men that they appeared lighter in numbers than usual; but knowing that they were all young bees, hatched in August and September, I apprehended no trouble from that source. I feared honey-dew more than any thing else."

"Do you find the entrances clogged very much?"

"No, not as much as usual. I have been to all my apiaries twice this winter, to clear the entrances; but, owing to the facts above mentioned, they were very free from dead bees."

Having now been reminded that it was past eleven o'clock we adjourned until morning, when the convention was again opened in friend John's apiary. It being a bright warm morning, a few bees were flying. We opened several hives, to find that the bees were all in splendid condition, and wintering well, with no signs of diarrhea.

"What are you going to do with this timber lying here, John?" I said.

"I am going to put up a honey-house and shop, as you see the one I have is too small."

"How large do you intend to build?" I again asked.

"I have laid my plans for a building 18x36."

"Well, my friend," said I, "you will find that will be too small in a year or two, as you say you already have the wood-shed and corn-house chambers

full of bee-fixtures; and here your present building is also full; and when you come to move all of your stuff into the new building you will have it full on the start; so, what will you do in two or three years if you increase your colonies as you intend to do? Now, I have had some experience in building addition after addition, and yet I am short of room; so let me advise you to build larger than you ever expect to need, and even then you will soon be cramped for room. You will find that a building 24 x 42 will suit you much better in the end than the size you mention."

"I suppose, Mr. Manum, you have read the discussions relative to burr-combs, and how to prevent them. Do you think that thick top-bars will prevent brace-combs?"

"Well," I said, "it is so warm and pleasant, let us sit down here on this lumber, where we can enjoy the hum of the bees as well as the sun. In regard to brace-combs, I hardly think it necessary to adopt those thick clumsy top-bars to prevent them. First, they are too expensive to make; and, secondly, they take up too much comb space in the hive. Let us figure. A $\frac{3}{8}$ " thick top-bar is $\frac{1}{8}$ " thicker than one $\frac{1}{2}$ " thick. This extra $\frac{1}{8}$ " takes up the space of $2\frac{1}{2}$ " cells; and if the frame is 18 inches long, at 5 cells to the inch we find that we have 450 cells less in each frame, with a $\frac{3}{8}$ " top-bar, than with one $\frac{1}{2}$ ". Now, if we use 10 frames to the hive, we find that this extra $\frac{1}{8}$ " costs us 4500 cells to each hive; and if we get 3 hatches from these extra cells, by the time bass-wood blooms we have 13,500 more bees in each hive than we should have with the thick top-bars, which means quite a little swarm of bees of themselves."

"Yes, but how are you going to prevent brace-combs? that is the question. What is your practice and theory?"

"I am coming to that now," I replied. "My practice and theory are very closely related in this matter. First, I make my top-bars one inch wide by $\frac{1}{8}$ " thick, and space them $1\frac{1}{8}$ " from center to center. This close spacing has a tendency to prevent storing honey in the upper part of the combs, and induces brood-rearing clear up to the top-bar, so that, there not being any sealed honey below the top-bar, the bees do not seem to have any use for burr-combs immediately above or between the top-bars. Second, I find there is a vast difference in strains or families of bees about building brace-combs. I have had colonies that seemed to delight in filling up every little space below the supers, while other colonies in the same apiary would rarely ever build any. I once had a colony that would fill up the $\frac{1}{8}$ " space between the top-bars and supers, and between the edges of the top-bars, as fast as I could clear them out—or, at least, I would always find this space filled every time I went to them. So I commenced experimenting with this colony by trying every method I could think of to prevent burr-combs, but without success, until I used plenty of hard soap on the top-bars and bottom of the sections. Finally this colony swarmed; and as they left a few very nice queen-cells, I thought I would save them and raise a few queens from them for an experiment, to see if this trait of brace-comb building would be transmitted to the progeny of these young queens. I succeeded in wintering six of these young queens, and, sure enough, I found that, as soon as the honey season opened, they were as bad as the old colony. Since then, when selecting queens for breeding, I am very careful about this

one particular trait of character, so that I am convinced that, with proper width of top-bars, and proper spacing and very careful breeding, we can very much lessen the building of burr-combs, without using thick top-bars."

"Mr. M., your explanation and experience are very interesting to me. Let us go in to dinner, as mother has just called."

Dinner over, my friend John harnessed one of their many horses and took me across the lake—on the ice—to the thrifty town of Ticonderoga, N. Y., and thence to old Fort Ticonderoga; and after walking over the ground that Ethan Allen and his brave men did on that memorable morning, we returned to spend another pleasant evening in the home of the Larrabees. The next day being Sunday, the time was very pleasantly spent in discussing the different religious creeds, and the various theories and beliefs in regard to the life beyond.

The next morning found us up bright and early, and at 7 A. M. Manum boarded the train to renew his acquaintance with the conductor who caused him such an unpleasant walk a few nights previous. But as the pleasant visit with the Larrabees had completely extinguished the fire within, I returned the gentleman's smile as he took me by the hand and offered an apology for his blunder, which was accepted, and we were soon on friendly terms. Thus the matter ended pleasantly between conductor and traveler.

A. E. MANUM.

Bristol, Vt., Mar. 10.

I read your articles, friend M., with a great deal of interest, and I have considered you sound on almost every thing you discuss. In the present article, however (if you will excuse a junior in years and experience), on the matter of brace-combs and thick top-bars, there is one place in which you appear to me to be a little lame in your argument. In brief, you say, because there are fewer cells to the frame, with thick top-bars, therefore there are fewer bees to the hive. Now, friend Manum, you would not argue, that, because your frame—a crosswise L., or very nearly so—is only about $\frac{1}{2}$ the size of the standard Langstroth, you would, for a like reason, secure only $\frac{1}{2}$ of the bees that you would in a Langstroth, would you? It is not the size of the frame, nor the reduction in length and depth, that has so much to do with the number of bees, as the size of the hive. It is true, that a thick top-bar reduces the number of cells to the Langstroth frame; but, bless you, there is plenty of room in the surplus apartment, and there is where you want the extra amount of honey to go. A correspondent in the last issue made the statement that thick top-bars cause the combs to be built clear to the bottom-bar. With thin top-bars, the bees will usually leave a little space just above the bottom-bar. If our friend's statement is true, there are actually just as many cells with the thick top-bar frames as with the thin ones. You say you have a few burr-combs; but, friend M., don't you want to do away with their building altogether? According to the best authority, it takes from 5 to 8 lbs. of honey to make one of wax. A friend who sits by me, Mr. Francis Danzenbaker, says that, when he used the thin top-bars he scraped the combs off from 50 colo-

nies. At the end of the season he found that each colony had built $\frac{1}{2}$ lb. of burr-combs, which would mean the consumption of from 3 to 5 lbs. of honey. Now, can't we manage, by having thick top-bars, to have this useless energy, waste of honey, and waste of time on the part of the apiarist, concentrated in the right direction? You are correct, if the testimony thus far received is of any value, that close spacing does diminish burr-combs.

ERNEST.

I think I should side with friend Manum in regard to thick top-bars. It is true, we can enlarge the hive; but even then we shall have the bees breeding, and keeping warm great heavy sticks, right in the center of the brood-nest. It seems to me it is like mixing wooden eggs with the good ones under a sitting hen, especially if the good ones are scattered all among the wooden ones. May I venture to suggest to friends Manum and Larrabee that such a way of spending the Sabbath is very commendable, providing you attended church one or more times during the day, and had open Bibles before you when you discussed the various creeds. "He that doeth the will of the Father shall know of the doctrine."

BEE-KEEPING IN CUBA.

RUNNING EXTRACTORS BY STEAM-ENGINES, ETC.

Friend Root:—Our surplus season was a very short one this year, and our crop correspondingly short, for we secured only 53,000 lbs., which we consider not more than a two-thirds crop. The reason, we have had and are still having the most protracted drouth I have ever seen in Cuba—only two small showers since October. We have had no bloom since January, to speak of. But I have unbounded faith in Cuba that the rains will come, and the bloom with them; and in proof thereof I will say we are going right on with our increasing. I shall fill every hive on the place, and have ordered more. Had we had as many again bees as we did have, through the months of December and January, we should have got nearly as much again honey.

Mr. Root, I do not pretend to understand other people's business, but I know a little something of the honey resources of Cuba, and of the management of bees to secure extracted honey. On page 175 of March 1st GLEANINGS you say, "Don't be troubled about Osburn's extractor run by a steam-engine; . . . but it will be a good while before he gets the steam 24-frame extractor to going." Well, now, friend Root, perhaps it will. I shall not try to put the engine and said extractor in this year, for I have made arrangements to pay for this property here, including 7 acres of land, bees, house, and all fixtures belonging thereto. I have just completed an addition to the house, 12 x 22, which makes our living-quarters very comfortable indeed. When I wrote you last, I said we had extracted 15,000 lbs. with the Stanley extractor. That was so; but the next day I got a man to run the extractor, and in two hours he had it so badly crippled that the baskets would not revolve; and being in a great hurry I did not take the time to examine the machine, but set it out and put the old machine in, and threw out the rest of the crop, 38,000 lbs., making 53,000 lbs. altogether. After we were done extracting I ex-

amined the Stanley; and the trouble was, the lower collar on the upright shaft had become loosened, and that threw the baskets out of plumb, and they would not revolve. So you see it was a very slight thing after all. I will say for the Stanley, it is the best-made extractor I ever saw, and I have seen a good many; and I will say it is the most rapid machine I ever saw. I shall try to get along with it for one more crop, but I have written to the manufacturer for another gearing. I want the baskets to make 5 revolutions to the crank one, while the present one makes only $1\frac{1}{2}$ to the crank one. But about the engine and 30-frame machine, I don't give it up any more than you gave up the idea of putting a larger engine in your factory, when you saw that the requirements of your business made it necessary. Every man is supposed to understand his own business (or, at least, he should). It is hard for people in Ohio or any of the Northern States to understand the great difference in taking extracted honey here where we have the grandest honey-flow in the world for two months, or taking it where they can let the honey stay in the hives until the harvest is over. We quit extracting the 17th of February, and then extracted only twice in that month, on account of the drouth; but from Nov. 14 to Feb. 17, we extracted 14 times—that is, went over the apiary and took every thing clean. In November we extracted twice; so you see, during December and January we extracted 10 times over every hive. Well, now, do you see the necessity of having a large machine, and power to run it? Why don't you put in 40 or 50 one-horse engines to do the work of one in your factory? The receipts of our apiary, honey and wax, have been very close to \$3000, and we have hired only 4 days' work at \$1.50 a day—Cuban paper, which in U. S. money would be about 60 cts. a day, or \$2.40 for the whole; and this I know has been a poor year and a short crop. We sold our honey for a good price in Havana, and it was sought after by all buyers, and it ever will be so as long as it is correctly managed, for it is as fine honey as the world produces anywhere.

Now, I think I should say something for the old Simplicity hive. You know we use the Simplicity—that is, in all the important features. The body of the hive is the same, only for a hive exclusively for extracting, we (that is, A. J. King and I) concluded to have the frame deeper and shorter than the regular L.; but otherwise it is the Simplicity. Now, what feature I like about the hive above all others is the cover. A man would have to pay me a big sum of money to get me to use a flat cover. Why? Because it is too much bother, and it takes too long. It kills too many bees, and is a nuisance where rapid work is to be done. With the old Simplicity cover, if there is a quart of bees on top of the frames, slap the cover on, and very seldom a bee is mashed; then the cover is never stuck to the frames; in hot weather there is a dead-air space above the frames; and when you will find the front of a hive that has a flat cover, all covered with bees, you will find those in the Simplicity as cool as cucumbers. Why is there that difference? Simply because the bees in the flat-covered hive have every crack sealed up tight, and there is not the slightest chance for a circulation of air; while with the Simplicity cover the thing is impossible. They can not close every crack, because they can not get at them. I sit down here and look on with perfect indifference at the discussion going on about thick top-bars and

brace-combs, for neither of them bothers me at all. With the extracted honey, let them brace their combs if they want to. We extract every six or seven days anyhow; and what comb honey we produce is produced in the Falcon hive, and every comb is as straight as can be; and if they build any brace-combs they are below the sections, and do no harm. The separator between the section and brood-frame prevents all that; and there being a wooden separator between every row of sections, there are no crooked combs. Every one can be cased for safe shipment. So, friend Root, if you will let me have my 30-frame extractor, and engine to run it (I have the best hives for extracted and comb honey), I shall be the happiest toad in the puddle.

QUEENS.

Perhaps there is not a place in the world where queens need changing oftener than they do here. In the first place, they lay so continuously that at two years of age not one in 20 is fit to depend upon for a strong colony. They so seldom mate with pure drones, that, unless they are as a whole reared from pure imported mothers every two years, they run right back to the blacks. Hybrid bees are what we want, but from the first generation.

A. W. OSBURN,

Punta Brava de Guataa, Cuba, Mar. 16.

Friend O., the remark you quote was made by Ernest, who meant it as a little pleasantry. The remarks that both of us made in regard to the matter were intended only as a caution to some young bee-keepers here in the States. I agree with you, that bee-keeping in Cuba is quite a different matter. I confess that I am a little surprised to hear you say you want the baskets to make five revolutions to the crank one, especially where you revolve four or more combs at once; but, as you say, you know a great deal better what the demands of your business are than we do. I am glad to have you defend my old hobby, the old Simplicity covers; but I confess I do not see why the bees do not run the combs up against the cover, if you use it without any enamel cloth or quilt over the combs. Your vivid description makes me feel a longing to visit Cuba. But somebody told me, not long ago, that it rains there almost every day in the year—sunshine one hour and rain the next. But it seems that even Cuba has its occasional drouths.

IMPROVEMENTS AND INVENTIONS FOR BEE-KEEPERS.

BOARDMAN'S NEW HIVE-CART.

As the products of the apiary become cheaper, labor-saving implements and machines become more and more important. Among the important improvements and inventions for the benefit of bee-keepers is the hive-cart, an improvement not yet much in use or appreciated.

Our artist, Mr. L. B. Gardner, of Collins, who gave us the nice picture of my apiary, illustrated in GLEANINGS a short time since, has now given us another very nice picture, showing my hive-cart as it is used in carrying in the bees in the fall to their winter quarters. In the background of the picture is also shown a glimpse of the mammoth solar wax-ex-

tractor, with the front glass removed to show the better how it is constructed.

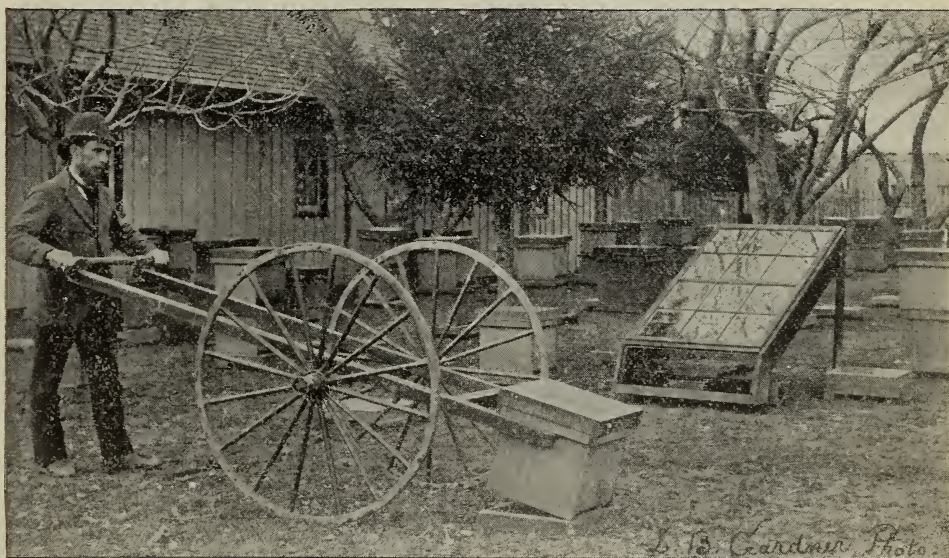
The picture will give a much clearer idea of the construction and practical use of these improvements than volumes of words could do. A very important feature of the cart, and one I have not seen in any yet illustrated in the bee-papers, is, it combines a very excellent common-purpose cart with the hive-carrier.

By looking at the picture you will notice that, in lifting a colony of bees, it does not pick the hive square up, but first tips it forward, just as you would do in lifting it by hand, tipping it a little first to break it loose from the bottom-board. Colonies can be replaced as carefully and deftly upon the bottom-boards as by hand. If a bee comes out to reconnoiter, he seems to be a little astonished to find no one within half a rod of the hive.

You see this will prove a bonanza to timid bee-keepers. A hive can be taken from the top of an-

not many of the hives in use constructed with little or no regard to convenience in lifting and carrying, either by hand or by means of a carrier? Did it never occur to you that the style of a great mass of the hives now in use is a little antiquated in this respect—that this feature in the style of a modern hive has been overlooked or neglected?

I am not disposed to quarrel with others about the style of hive they use; but for me, a hive that is to be much lifted and carried must be cleated outside. But we must take things as we find them, and make the best we can of it. There are thousands who use cleated hives. To all such this cart is perfectly adapted, and with some little modification or improvement it may be adjusted to the carrying of any style of hive in use; as, for instance, spring catches on the lifting bars for the hand-holes, and by means of rods connecting with the handle. A spring-scale attachment for the hive to rest upon with a registry dial above is a part of the



BOARDMAN'S HIVE-CART AND SOLAR WAX-EXTRACTOR.

other hive, or be replaced. Besides lifting and carrying colonies, all of the heavy carrying in the apiary can be done with this cart, distributing hives, surplus cases, taking off surplus sections or comb for extracting. For carrying empty or light hives, six can be hung between the bars, and six placed on top, making 12 at a load. For moving lumber from one place to another, I found it to be very convenient. The lifting frame, or bars, are 8 feet long, 2 inches square; are clipped to the axle 3 feet from the lifting end, thus giving an easy leverage over the axle, for lifting. The wheels are 2 feet 9 inches apart. It is quite important that they be large, in order to run easily and smoothly.

As this cart is made and adjusted expressly for my hives, I anticipate the most important criticism. As a general hive-carrier, it is not adapted to many of the hives in use.

If I may be excused for the bold criticism, is it not rather the fault of the hives than the cart? Are

original plan, so that every colony is weighed as they are carried into winter quarters. This hasn't materialized yet. One day in the latter part of November, about 3 o'clock P. M., I threw open the doors of the bee-house and commenced testing the merits of the new hive-cart. I wheeled the bees myself to the door, where an assistant lifted them from the cart and placed them in position inside. The weather was growing rapidly cold, but not yet freezing. The bees were very quiet, and not disposed to be offended at any slight provocation. They were unusually heavy, and many of the hives were filled with bees snug down to the bottom-board. I was astonished at the ease and rapidity with which I could pick up and wheel the heaviest colonies, doing it easily, if I chose, with but one hand, and at the same time so softly and gently that the bees were not disturbed. I had been racking my brain for some time in trying to devise some kind of spring which would take the jar off

the hives, but I was elated to find out that nothing of the kind was needed. I need not tell bee-keepers of any experience that it is no small matter to stoop and pick up a heavy colony of bees carefully from the ground. It is a much bigger job to thus stoop and pick up 100 colonies. You will pardon my enthusiasm, then, on learning how to dispense with all of this back-aching business.

But some one has reminded me that my bee-yard is especially adapted to the use of such a cart, being graded with much care, even and smooth. I am not unmindful that this adds very much to the pleasure of this, as it does to all other work in the apiary. But special fitting of the yard for this purpose is only a matter of convenience and comfort, and not a necessity. I had quite a number of colonies outside the prepared yard, under a row of trees, where the ground was very rough. These were at a considerable distance from the bee-house, five or six rods, may be, to the furthest. Even these I wheeled in without the slightest inconvenience. We worked very moderately, with no thought of hurrying; and when we were done I found we had been just two hours in putting 125 colonies into their winter quarters; and so much had I enjoyed the work that I was almost sorry when it was done.

HANDLING COLONIES WITHOUT BOTTOM-BOARDS TO THE HIVE.

It seems to be almost a "dark mystery" to some how bees can be handled in hives without bottom-boards, particularly in carrying them in and out of the wintering repository. I have used such a hive for many years; have carried them in and out many times, and have never experienced any difficulty in doing it, when done in the right way. There is a right way and a wrong way to do things, and I have observed that the right way is the best, always. Handling bees without bottoms to the hives depends very much upon doing it in the right way. I have been quite particular in the details of my experience in carrying in my bees, for the purpose of showing what can be done in handling colonies in the bottomless hives, to show that it is not necessary to fasten bees in their hives, and half smother them, as some do in carrying them into their winter quarters.

THE RIGHT WAY.

Every one who has handled bees much, knows very well how keenly sensitive they are to the conditions of the weather. This must not be forgotten in deciding upon the time of carrying the bees in or out. They should be carried in on a cool day, when the temperature is falling. If the colonies are very heavy, and they are clustered down on the bottom-board, raise such hives a little, and place blocks under them so the air may circulate under, and it will help them to get up where it is warmer, in a very short time. The temperature should be falling, for then the cluster within the hive is slowly contracting, and the bees are all preparing to take a nap, as it were, and are in the best condition to be carried in. When the weather is growing warm, even if it is quite cold, the cluster within is expanding, many of the bees are preparing to take a look outside, and will fly out on the slightest disturbance. Don't try to put them in at such a time.

In putting out in the spring, of course there is not quite so good a chance of choosing a favorable time to do it. But if your bees should chance to become hot and restless, don't do so foolish a thing

as to get alarmed and throw open the doors of your bee-room, and attempt to put them out when it is still warmer outside. I have never known bees to receive any harm from becoming hot in the bee-room, above the loss of a few bees getting lost from their hives. It would only arouse those in the room still more, and make it difficult and unpleasant to put them out; and in the yard more or less confusion would ensue. When you have decided to put the bees out, do it if possible in the morning of a warm pleasant day, while it is yet cooler than the bee-room inside; but be sure that the bees are to have a warm time in which to take their flights. The cooler air outside quiets the bees as they are taken out, and keeps those inside from becoming restless until all can be put out; then flights will be taken in a moderate way, and no confusion ensue.

These precautions are more especially for those having many colonies. A few colonies could be handled at almost any time, without difficulty.

East Townsend, O., Mar. 11. H. R. BOARDMAN.

Friend B., we can readily pardon your enthusiasm, especially since you give us one of the best and most practical articles we have had for a long while. Such a cart would, without question, be very helpful in many other operations in handling bees; especially if the ground is smoothed up and slicked up as yours is. In my first directions for hexagonal apiaries I advised having the ground as clean, level, and smooth, as an ordinary brickyard. So many, however, remonstrated, saying that it was too much labor and expense, that I gradually gave it up somewhat. With a cart for moving the hives and supplies, however, I think it would pay well to have the ground in just that way. With a scuffle-hoe, or something similar, the labor of keeping grass and weeds down is not great. Your remarks in regard to temperature, especially choosing a time when the thermometer is falling, is very important. I have before noticed the same thing, but I never thought to put it into print. However, I have not had nearly as much experience in housing bees as you have. Perhaps had I kept on using a bee-house I might have overcome some of the obstacles as you have.

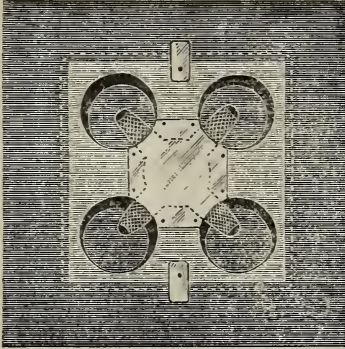
THE WRIGHT BEE-ESCAPE.

AND WHAT EUGENE SECOR THINKS OF IT.

THIS seems to be a time when bee-escapes are exercising the apicultural mind. There's no telling how many sleepless nights our brethren with inventive brains have passed in order to invent some new thing. Since the Reese escape and the Dibbern escape have appeared, doubtless many others have racked their brains to invent something in that line to immortalize themselves.

I send you by to-day's mail the product of a genius who did not rack his brain. He didn't have to. Geniuses never do. They do things because they can't help it. Now, if this "escape" isn't simplicity simplified, I should like to see one that is. Its inventor lives here, is one of our most enlightened and thorough-going bee-keepers, and a skillful man with tools, although he professes to be a farmer. He has rigged up a shop, by attaching a horse-pow-

er to a buzz-saw, where he turns out the neatest hives and fixtures to be found. But this is foreign to the subject. I only wanted to emphasize my assertion that he is a genius with tools. His name is W. W. Wright, of Forest City, Iowa.



WRIGHT'S BEE-ESCAPE.

You will notice that this escape is very simple, and easily made. It can be made in the honey-board itself, or in a separate block, and inserted in a square hole cut out for it. The strips of tin around the outside, and the tin buttons, are with the latter object in view. If made in the board they are not needed. His object also in making it in that form was that a sample might be sent by mail cheaply.

EUGENE SECOR.

Forest City, Ia., Feb. 22.

Our friend Wright's escape will work, without doubt. Whether it would be better or cheaper than friend Dibbern's, it is hard to say; but probably not as cheap. Perhaps this season in the apiary will throw a little light on the matter. If any one desires to test them they can be procured of Mr. Wright, as above. I will explain to our readers that the device is simply a square block, $\frac{3}{4}$ in. thick. Four holes are bored at each corner, nearly through, and one in the center clear through. A passageway is cut to each hole (see dotted lines), and through each passageway is inserted a small Reese cone. The upper surface is covered with a piece of tin. The light shading shows the removable block, which is inserted in a square hole of a hive cover, and is held in place by the tin buttons. The bees pass up through the central hole, through the cover and out.

BEE-ESCAPES AND BEE-ESCAPES.

THE VERTICAL VERSUS THE PERPENDICULAR.

SINCE the invention of my horizontal cone bee-escape, it was to be expected that many similar devices would be brought out, and claimed as original inventions. The crop is now maturing rapidly, and it can almost be said that the "woods" are literally "full of 'em." Happily this matter is not hampered by any patent rights, and the field is entirely free to all. Nor is it to be deplored that so many different devices are appearing. Bee-keepers want the very best means for doing every thing about the apiary in the best and most expeditious manner; and surely in the multitude of discussion or invention is wisdom.

Bee-escapes, as known at this time, consist of two kinds—the vertical cone, as invented by our friend Reese, of Winchester, Ky., and the horizontal cone, as invented by myself. The vertical cone, or Reese, was thoroughly tested last season; and although it generally worked fairly well, it was found objectionable on account of strong colonies clustering, and building comb in the vacant space immediately under the escape-board. Great hatfuls of bees would also hang from the cones, and in some cases actually build comb inside and around them. Mr. Reese has lately tried to overcome this by removing a section from the empty super under it, and letting the cone drop into the space thus made vacant. When it is considered, however, that it is seldom that we wish to take off a full super and place an empty one directly under it, the whole arrangement becomes bungling and impracticable. No progressive bee-keeper would long remain satisfied with such methods.

These difficulties led me to the invention of my horizontal escape. It is plain to see that the objections to the vertical-cone escapes are well nigh insurmountable; and it is noticeable that all the new escapes are on the horizontal principle. It is true, as stated by Mr. Reese on page 197, that the horizontal-cone escapes have not been as thoroughly tested as could be desired. We know positively, however, from our experience with the Reese escape and other devices, that bees readily pass through any hole big enough for them to get through when cut off from the rest of the hive by means of a board. Now, bees can pass through my horizontal four-outlet escapes as readily as through the Reese; and the chances for any getting back are very much less. There are no bees so persistent as robbing bees; and I have demonstrated conclusively that robbers can not go through the escapes when suddenly placed on a hive upside down, when it is being robbed. I believe, too, that bees are much more persistent when carrying honey out of feeders or supers than they would be to re-enter such after escaping from them. I am entirely satisfied with my escape, and know it will do all I claim. It is also quite likely, that, like the queen-excluding honey-board, other uses will yet be found for it.

THOSE DOUBLE TOP-BARS.

Oh, yes! I forgot, when writing on this subject before, that I, too, experimented with double top-bars. My main idea was to do away with the slatted honey-board, and, come to think of it, why I did not throw them aside I don't know. I made one hive with a frame having a double top-bar, just as described by friend Baldrige; also another hive with both double top and bottom bars, and a third hive with double top-bars, on the break-joint principle; that is, the openings were directly over the center of the brood-combs, and, of course, there was no opening between top-bars. I lived bees in all of these hives in 1888, and no trace of burr-comb has ever appeared in any of them. My frames are only 7 inches deep, outside measure; but I made the one with both top and bottom bars double, 8 inches. As I did not like to reduce the comb space so much, I placed some six or eight small $\frac{1}{4}$ -inch pieces between the upper and lower bars, as I concluded that would answer the bees for brace-comb. The bees have wintered well in them, and, as stated before, I don't know why I did not adopt them. I thought at first that so many nooks and corners

would be objectionable, and make it more difficult to find queens. After two years' experience, however, I do not find it any objection, and I think I see in the double top and bottom bars some advantages over the thick top-bars alone.

Milan, Ill., Mar. 31.

C. H. DIBBERN.

Friend D., your invention of the horizontal bee-escape—that is, providing you *are* the original inventor in that line—is certainly a very important matter, and I think they are destined to take a prominent place among our implements of bee culture. Very likely, top-bars with an opening through the center will answer every purpose in keeping away burr-combs; but are they not more machinery than the ordinary top-bar? Of course they do not need spacing. The frames are held at fixed distances, and the bee-space is exactly right; but even with these advantages, is it worth while to start a new thing and go to the expense of making a top-bar with a vertical slot through the middle?

SELF-REGULATING TEMPERATURE.

L. C. ROOT DESCRIBES A NEW INVENTION FOR RAISING PLANTS UNDER GLASS.

My attention has recently been called to what seems to be one of the most valuable inventions of the day. Mr. Charles Barnard, an enthusiastic and prominent writer on agricultural and scientific topics, has invented and patented a system of regulating the temperature of greenhouses or other buildings when a uniform degree of heat is desired. The patents cover the construction of the house, boiler, and process of heating, appliances for ventilation, etc. The greenhouse which I saw in operation indicates a marvelous invention, some of the advantages of which I will endeavor to set forth.

The walls of the house are made in sections, and of such material as to be impervious to heat and cold. Each part is made complete, and can be set up by any person of ordinary mechanical ability. For heating, iron pipes are used, connected with an upright boiler designed especially for the purpose. The boiler and all the heating apparatus are in one corner of the house proper, so that the entire heat is utilized. Illuminating gas or kerosene may be used for fuel. If the latter, a sufficient quantity to supply the burners for a given time is placed in a tank from which they are fed. The heater is so arranged that no gas from the burning oil enters the room. A ventilator is constructed in the top, which is furnished with a device connected with the heater in such a way as to turn on the heat when the ventilator closes, and turn it off as the ventilator opens. This device will open and close the ventilator as the temperature varies. It can be gauged to hold the temperature at any desired degree.

This ventilating apparatus dispenses with the raising and lowering of movable sash, as in the ordinary greenhouse. One of the reasons for this even temperature is the fact that the fresh air is largely supplied through the ground. This uniformity of temperature being secured, no care is necessary for days at a time, save in supplying the plants with water.

So far I have considered these advantages as applying to greenhouses only. Mr. Barnard proposes to adapt the system to hot-beds, or a series of them,

which will be of inestimable value to gardeners. I feel very certain that this new idea is to command the attention of bee-keepers, as it will be found of marked value to them. Every feature of the system commends itself to their thoughtful consideration. Its impervious walls, perfect system of ventilation, uniform temperature at any point, and, consequently, pure atmosphere, its form of construction, which enables it to be taken down easily and quickly, and moved from place to place, all tend to make it available for wintering bees, holding and curing both box and extracted honey, storing surplus combs, and for many other purposes connected with our pursuit. Really, I can not see why this principle, when properly applied, can not be adapted to our poultry-houses, stables, public halls, school buildings, and even to our homes.

Stamford, Conn., Apr. 2.

L. C. ROOT.

Friend R., I am glad to know that our friend who loves to see things grow, Mr. Charles Barnard, has succeeded so well. Automatic regulators for furnaces, as well as ventilators, are old ideas in regard to greenhouses; but I believe that very few of them have found much favor so far. I do not know how we should use it very much in bee culture, unless it were applied to the wintering repository; but friend Doolittle and others succeed with so little variation in temperature by means of their underground caves, it seems to me there is not much more to be desired. There is another thought in regard to plants: Inasmuch as nature furnishes a certain amount of variation, I have begun to conclude that our greenhouses also should not have a temperature with too little variation. Very likely friend Barnard's arrangement may include all this.

RAMBLE NO. 23.

UPS AND DOWNS OF A PEDDLER—ESPECIALLY THE DOWNS.

ONE autumn day we were comparing notes with an aged neighbor about a weakness in our running gear. He said, that, by standing long on the feet, and lifting heavy articles, the "spine" of the legs becomes compressed and painful. We always supposed, as per Darwin and others, that the spine ended above the legs; but we always respect gray hairs, and took it for granted that this friend knew; and when he advised a long restful wagon ramble, we knew there was wisdom in his speech. We loaded our wagon with things sweet and elevating, and turned our faces toward the east, in search of light and trade, and after an arduous forenoon's work we found ourselves many miles away, with the cash for one pound of honey, our spirits lacerated with several scoldings, etc. The people, male and female, old and young, had nearly all taken an excursion epidemic, and got themselves out of the country. The few left were angry at themselves and everybody else, because they were left. One specimen of the gentler sex snappishly informed us that our baking-powder (that's what we carry along with us that is elevating) wasn't worth a pin—"tain't fit to feed pigs with."

"Why," says we, calmly and mildly, "of course it wouldn't be economy to feed it clear to pigs; but, give a little in its rations and it will have a tendency to heaven."

"Yes," said she, "I knowed it would level him; it's pizen—pizen as a cohort."

"Cohort!" says we.

"COHORT!" said she.

Says we to Nig, "Get up," and she went. We got into a brown study for the next half-hour, and passed several homes before we solved the problem. The dear woman had got her Scripture slightly mixed with that old but highly respected rat-poison, cobalt. We felt better, and concluded we would stop at the little brown house behind the spruce-trees. No answer to our repeated knocks; but a sound from the back yard led us in that direction, and there we found two cherubs in a barrel.

"Well, my dears, what you doing in there? Where's the folks?"

"Gone on scursion. Put us here to keep us out of mischief."

We learned afterward that this mother regularly barreled her children when she left home. They were used to it, and evidently enjoyed it.

Our journey for the day, with many more varied experiences, finally came to an end at the residence of Mr. Goodwin, on the Danby Mountains. Mr. G. is the owner of a large farm, and is also interested in the raising of sweets from three thousand sugar-maples. His annual yield is hundreds of gallons of syrup, which adds much to the revenue of the farm. In the production of honey there is not much done in that line, that we could learn; but we should judge it to be one of those good places as yet unoccupied. The mountains on each side of the valley are of such height that the honey-flow from basswood must be greatly prolonged, as vegetation is seen to put forth green leaves fully ten days earlier at the foot of the mountains than it does at the summit. Buckwheat is also sown to a considerable extent, and goldenrod is abundant.



PEDDLING HONEY WITH AN OX TEAM.

The next morning, our friend, desiring us to see his farm and sugar-orchard, attached the oxen to the family wagon, and himself, the Rambler, and two ladies, enjoyed a delightful ride. What beautiful scenery! what a docile team! what invigorating air, and what smiling faces! The Rambler forgot all about the spine of his leg being affected, and laughed with the rest. Neighbor C. must be visited; and as we approached we saw him shading his eyes; then he called his wife to help him gaze, and they mutually made up their minds that a menagerie was coming to their mountain home. With a stentorian "Whoa, haw buck!" our friend landed us safely on the doorsteps. We found here one of those splendid Vermont barns. As the slope of the side hill was several miles, there was ample room for a grand work. The entrance was at the gable end; below were capacious bays, and a double tier of cow-stables; and behind them a capa-

cious manure-pit, which point, the Rambler is sorry to observe, many farmers are very careless about, hence the fertility of the soil is wasted around the barn. While riding behind the ox team we discussed and decided that it would be a capital rig with which to peddle maple products and honey. Of course, the peddler would have to go slow, and this would give people time to make up their minds to buy; besides, how attractive such a team would be in any of our cities! Let us not despise the bovine, is the conclusion arrived at by the

RAMBLER.

Friend R., when I first read your account of putting the children in the barrel to keep them out of mischief, I thought you were drawing on your imagination; but a near neighbor assures me that this is no fiction. He says, that in his childhood it was a common thing to "barrel" the children to save the bother of chasing after them. May the Lord be praised, a different state of affairs has come about in the matter of caring for children. Since you mention it, I think it quite likely that an ox team would be one of the tallest kinds of advertising for honey and maple syrup. These knowing chaps who talk so much about manufactured comb honey and adulterated maple syrup would very likely have faith if oxen drew the rig, and the driver were to fix up to correspond with the "cattle."

BEES THAT BUILD ILL-SHAPEN COMBS, ETC.

WHY DO THEY DO IT? AND SOME OTHER MATTERS.

HAVING a few hours of leisure lately, I looked over GLEANINGS for 1889, and in doing so I ran across an item or two which I wish to notice a little. On page 132 is a short item about comb-building, in which the writer, Mr. J. A. Golden, tells of a colony which built "nice, beautiful, thinly drawn comb" in the middle sections of a super, while the outside sections "contained some of the heaviest and most ill-shaped comb" he ever saw, and he wanted to know why this was so. In your footnotes, Mr. Editor, I notice that you think that the only solution to the mystery is, that the weather was cool when the latter combs were built, while the former were built in warmer weather, as well as their being immediately over the cluster where they would naturally receive more heat. Now, as far as my knowledge goes, bees do not attempt to work wax unless the temperature is right for the successful working of the same, and bees are capable of making a right temperature just when and where they please, as I have often proved with my self-registering thermometer. A small cluster of bees can easily keep a temperature of from 92 to 95 degrees during a cold frosty night, as many nights' experiments testify, and that is plenty warm enough for wax-working. From past experience I should account for the "my-tery," as presented by Mr. Golden, in its being in the loss of the queen in that particular hive, and especially as none of his other colonies were noticed building such peculiar comb. If "cold" had been the cause of the trouble, all of the colonies would have built thick irregular combs as well; but as it was this particular colony that did so, we must look for the trouble at this point.

Several years ago I had a colony of bees that were nicely at work in the sections, having a part of them filled with comb, when, one day, in handling the frames below, I lost the queen from some unaccountable reason, and from that date till they got a laying queen they built the poorest and thickest comb which I had ever seen at that time. Many of the sections had the comb in them "stubbed" off at the sides and bottoms; some were not built more than half down when the cells were lengthened out, filled with honey, and sealed over, so that very much of the honey was unsalable. Since then, in trying to control swarming by caging the queen I have had the same state of affairs, so that I am very positive that loss of queen was the cause of the whole trouble. In fact, I very often perceive when a colony has lost its queen, by the looks of the comb which they are building in the sections, thus being able to remedy the matter, when I otherwise might not know it, or not till the colony was considerably injured. That not nearly as nice comb is built when a colony has no laying queen in the hive, is one of the reasons why I do not like the plan of taking away the queen in swarming time to prevent swarming.

GOOD QUEENS.

On page 423 I see it is thought that Doolittle is a little "off" in claiming that queens reared by what he terms "natural processes" are better than those reared by other methods, as put forth in my book. Now, I only wish to take space to say that I do not claim for the queens reared as I advise, any superiority because they are cradled in artificial cradles, or because these cradles are supplied with plenty of royal jelly into which the selected larvæ are transferred, or any thing of that kind. No, nothing of the sort. These are only conveniences to pave the way for having the queens reared just when and where we wish them, by that good and inexpensive way of having them reared in the upper stories of hives having a laying queen below. What I do claim as superior is in the bringing of the colony into that condition where they will rear queens leisurely, and under the same conditions that they do in superseding their own queens without the interference of man, when, as all know, the very best of queens are reared. When this can be done, and that, too, without having a queenless colony as a loss on our hands, I think that even friend Root will concede it to be of advantage to do so. If any one does not wish to use the artificial cups (which friend Alley calls "fussy"), let him use the plan as given, minus the cups, royal jelly, etc., having the cells built in the old way, or *a la* Alley's plan, as he desires, and, my word for it, better queens will be reared than have been the most of those reared in the past.

UNSEALED BROOD TO PREVENT SWARMING.

On page 604 I read as follows: "Out of some 35 or 40 swarms which we have hived during the last few days, as nearly as we can make out some 7 or 8 of this number have actually left their frames of unsealed larvæ. While a frame of brood tends very greatly to hold the swarm, it is by no means infallible." Now, after all I have said in the past on this subject, I do not know that any thing further will be tolerated from me; but I do feel so anxious that others shall not sustain a loss, as I have done, that I venture a few words more, especially as the swarming season is near at hand. I take the ground that brood is no preventive of *prime swarms*

leaving their hives, but, rather, an incentive; and any person who should have 8 out of 40 swarms try to leave their hives after having brood given them, ought to so see it, it seems to me, instead of trying to bolster up that old fallacious idea. Any man who hived 40 swarms and had 8 of them leave the hive and run away, would be a great exception to the general rule, for past knowledge compels me to say that the average is not over 4 % where swarms leave an empty hive. Bees leave the hive for the express purpose of getting away from the brood, where they have the laying queen with them; and by placing brood in the hive they are put in, we bring about nearly the same conditions they swarmed out to be rid of. With after-swarms the case is different, as brood then is not objectionable, and helps build up a weak colony. G. M. DOOLITTLE.
Borodino, N. Y., Mar. 30.

Very likely, friend D., you are partly right in regard to these awkward combs. The reason why I gave my opinion, however, was, when I experimented largely with the thin loose hoop hive you may remember about, I found nice combs in the center sections of the super, but thick and awkward ones toward the outside; and right close to the hoops, where the bees could look out and see the stars through the concrib-like openings, the combs were thick, awkward, small, and finally none at all. When the idea was first advanced of caging queens or removing them in order to increase the honey yield, you may remember that I protested strongly, saying the bees would stop work just as soon as the queen was taken away, or, at least, many colonies would do so. Well, it has transpired that they did not always stop work, for I saw them doing very good work at Dr. Miller's when the queen had been caged for a week or more, and then I concluded it made a difference whether the queen was caged in the hive or taken entirely away from it. Like yourself, I have so many times seen comb-building slacken up at once on the removal of the queen, that I am sure her presence or absence has much to do with it. It is well known that queenless colonies usually build drone comb, and I have repeatedly seen the bees change from worker to drone comb when the queen was taken away. I wish Dr. Miller and others who practice caging queens when they are getting comb honey would tell us whether they have noticed such things as I have mentioned—namely, changing from worker to drone comb after caging the queen. In regard to getting good queens, it seems quite reasonable that queen-cells built and queens reared under the influence of the swarming fever would be better than those where the queen was taken out of the hive in order to get cells. In my experiments, however, theory did not seem to be sustained by practice; but Ernest just now adds, that, in their recent experiments, they did get, he thinks, rather nicer queens reared under the swarming impulse. In regard to the last matter, unsealed brood to prevent swarming, if you emphasize *prime swarms*, as you do above, I do not know but that we can pretty nearly agree with you; but where we buy swarms brought in by farmers round about, and di-

vide up natural swarms to make nuclei, and with swarms containing virgin queens, I still say, give them a little unsealed brood to hold them; and I am now satisfied that a very little *unsealed* brood would not do enough harm to take into account, even if given to a prime swarm. A whole comb of brood in all stages has sometimes seemed to have the effect you speak of; but a comb containing eggs, with a few of the eggs just hatched into larvæ, has held bees so invariably that I would use it under all circumstances, if I could get hold of it.

THE HOT SPRINGS OF ARKANSAS.

WRITTEN BY MY YOUNGEST SISTER.

Dear Brother Amos:—To see the springs was my great wish on my arrival here; but, so far as I could learn, no one knew very much about them. The rocky steps leading up the mountain from the ladies' bath-rooms first attracted my attention. The rooms and hotel are adjoining, under one cover, and the mountain and hotel are so close that we can go out from the third floor without much climbing, and find the hot iron pipes crossing and recrossing each other on the mountain sides in all directions.

Herman's rheumatism would not permit his going, so I went alone. At one place I noticed the steam rising; and when I reached it I found it locked, as are the tanks, and other springs also, out of sight. I think there are *seventy-one* springs, and they all belong to the government except one. A lady from Cedar Rapids, a guest at this house, offered to go with me if I would do the "talking." So we went to the office of the superintendent of Hot Springs Reservation, and he kindly took the keys and went with us, first showing a large brick airtight water-tank holding 30,000 gallons, and so perfect that the water that runs in over night for use the following day loses less than one degree in temperature, which is 140 degrees Fahrenheit. Most of the springs are covered with stone, and cemented. The water is conveyed from them through iron pipes to the government tanks and bathing-houses below, and now we are where I saw steam rising. The door is unlocked, and I can go in and inhale the vapor, and see and feel the hot water coming, right out from the rocks—beautiful rocks they are too.

I asked the superintendent if he was not troubled with visitors; but he said I would be surprised to know how little the people seemed to care to see the springs. It reminds me of that scripture verse, "A prophet is not without honor, save in his own country." But I hope there are more here to appreciate these great, wonderful hot-water springs than I imagine; but I am told many have lived here for *years* who never went to see the springs.

We have just been to another spring, about one block from the house, and the water heated my cup until I could not have held it had it not been for the handle, and I could not bear my hand in the water a moment, as it would burn. This spring is on the main street, and is free to the city.

TUESDAY, 25TH.

Four ladies and myself have just been around and over Hot Springs Mountain (a spur of the Ozark Mountains), starting out south around by the

United States Army and Navy Hospital, and coming in from the north through "Happy Hollow Springs," a beautiful creek running along down the mountain path for about half a mile. I found a spring myself, and was clearing it out; but the ladies said I was going crazy over it, and so I had to leave it. I put my arm away back in it. There was no heat at all about that one. I should think geologists would find plenty to interest them here. I found two chameleons (at least, so I should call them)—one drab, the color of the tree-bark, and the other green, from the moss it was on. I wish I could have you to walk and climb mountains with me.

ARTIFICIAL ICE.

March 28.—We are just back from a long pleasant walk out to the Arctic Ice-works. The proprietor went around with us, and explained the process and showed us the cakes partly frozen, and let us see them when being taken out. I never saw natural ice that would equal the artificial in clearness. A piece weighing 150 lbs. would require about 36 hours to make. He showed us different grades; but what he called a fifth grade seemed to me much nicer than a great deal of the best at home that goes into our refrigerator.

From your little sister,

M. E. HOLMES.

Hot Springs, Ark., Mar. 24.

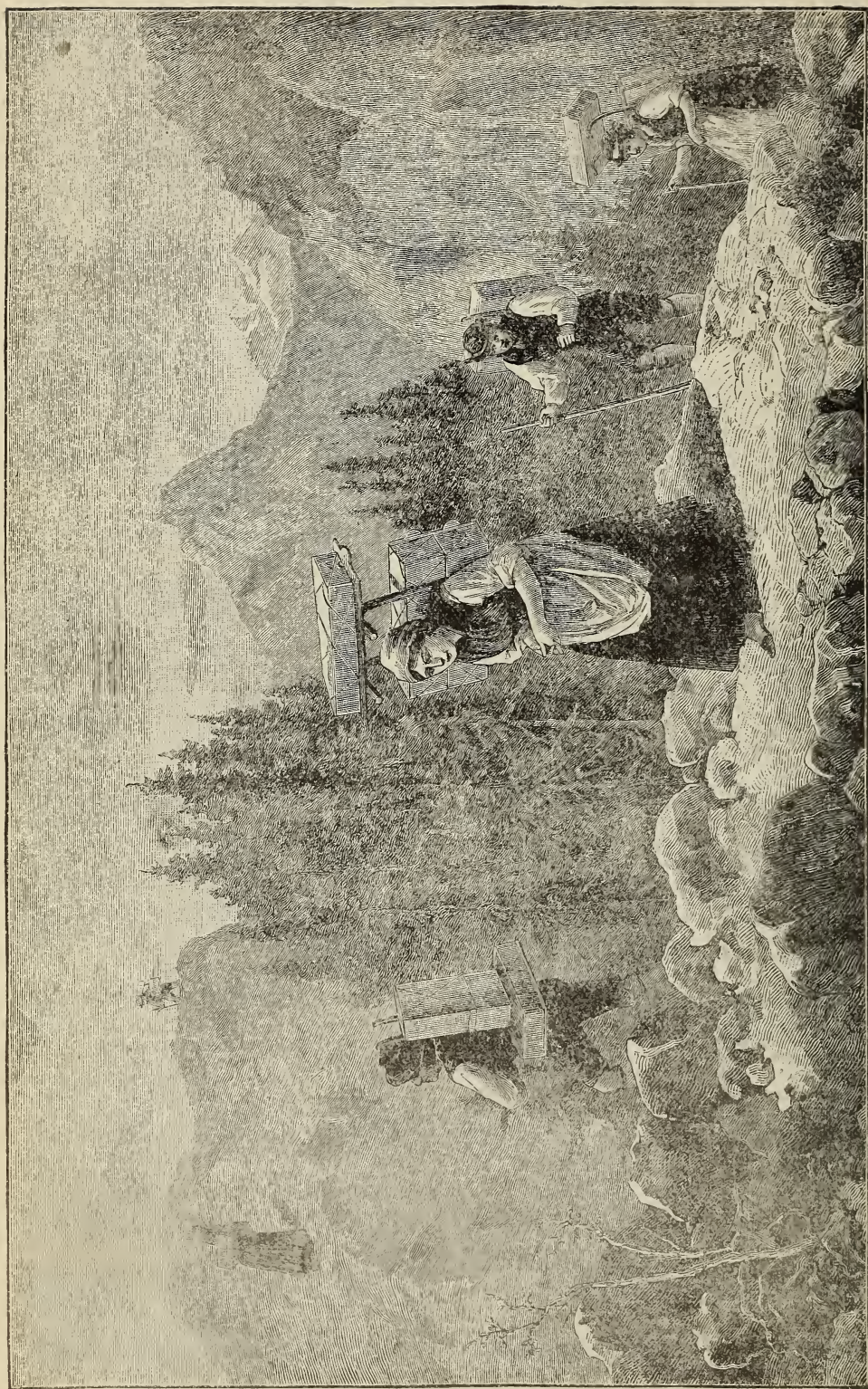
I suppose that, as a matter of course, sister Mattie, if the people round about the springs don't care to visit them, no one has thought of using this hot water for heating greenhouses, cold-frames, etc. With nature's supply, and no necessity for cold-frames or even natural gas, not only could all the fruits and vegetation of the tropics be raised with very slight expense, but we could be independent of many of the vicissitudes of weather that are such a trouble to us in cold climates. The fact that that great tank preserved the temperature within only one degree of heat suggested to me at once what a grand opening there was for a greenhouse. I suppose, of course, there is a great deal of hot water that goes off, doing nobody any particular good. Your description of the apparatus for making ice, comes in very opportunely after our exceedingly mild winter.

OUT-APIARIES IN AUSTRIA.

A NOVEL METHOD OF CARRYING BEES UP THE ALPS, TO FIND LATER PASTURAGE.

Friend Root:—I send you with this the Jan. issue of the *Leipziger Bienen Zeitung*. You will notice the engraving illustrating the manner in which bees are carried further up into the Alps in Carinthia. I was much struck by the lifelike picture, and thought possibly you would think it worthy a place in GLEANINGS. What do you think of the lady in the foreground? Doesn't she seem to bear her burden with mother-like patience? Here is a translation:

The Carinthian bee-keepers, to secure the highly prized honey of the Alps, carry, in mid-summer, with much labor, their stocks of bees to the highest Alpine meadows. The cases are carried upon the back, in what are called "knaxen," and more than three of them are sometimes piled on; and when we consider the weight of the cases, and the very difficult road, the burden seems possible for only the strongest men. One occasionally sees the en-



BEE-KEEPERS OF AUSTRIA CARRYING BEES UP INTO THE MOUNTAINS.—From the *Leipziger Bienen Zeitung*.

tire bee-keeping guild of the Carinthian high-mountain villages, laboriously threading their way along the narrow paths, climbing upward, as shown in the cut. What bee-keeper's heart is not stirred with enthusiasm in looking at the picture, and seeing the Carinthians climbing up the cloudy mountains?

The editor says that only the strongest man can carry three colonies; but it seems as if the lady had the largest load, does it not?

Belleville, Ill., Mar. 5.

L. F. DINTELMANN.

We might add here, that Carinthia is in the southwestern part of Austria, bounding Italy on the northeast. It lies immediately north of Carniola, where the bees known as the "Carniolans" are reared.

Yes, friend D., we do think the picture worthy of a place in GLEANINGS. Please accept our thanks for forwarding it. The picture reminds me vividly of my climbing mountains in California; and if our people there have never used an apparatus like the above for lugging hives I trust they will take the hint. I should be very glad to know whether the picture was made from a photograph of an actual scene, or whether the artist supplied something from his imagination. In the picture we see three women and three men. The woman in the foreground has the largest load of any. Is that the way they treat women-folks in Austria? If so, I wish to make a loud protest. Very likely they enjoy the work, and prefer to do it rather than to wash dishes and keep house. If so, well and good. But why do all the women-folks have arrangements for an *extra* package over the head? Supporting the burden directly over the head and shoulders so as to bring the center of the weight between the feet is no doubt an ingenious idea; and in carrying burdens up mountains I should think it would be valuable. In California I saw one apiary on a level height where it was impossible to get a horse or vehicle of any kind; and it occurred to me that it must have been a tremendous task to get all the hives up there. By the way, haven't our Austrian friends been trespassing on Heddon's shallow brood-frames? Those packages look almost exactly like half-depth eight-frame hives. In order that the package may be light, and at the same time restrain the bees, each section seems to be wrapped in paper and tied with twine, something on the style of friend Danzenbaker's package that he took down to Florida. By the way, will somebody tell us whether it is the mountain air and outdoor exercise that makes those women look so plump and healthy. If so, I think I should like to go and help. There is one thing, however, that might trouble me: If the women-folks carried three packages, and I should carry only two, I should feel ashamed of myself; and I am afraid that, if I were to undertake to carry three, and fail, I should be ashamed of myself still more. I wonder if they do not sit down and rest occasionally, and talk over matters; and are there springs in those rocky recesses? Is it possible that GLEANINGS has a subscriber in the neighborhood of these mountain apiaries? My curiosity is greatly excited; and, oh how I should enjoy visiting these brothers and sisters away off there.

near the native home of the Italians and Carniolans!

COMMENTS ON GLEANINGS.

TERRY'S PICTURE OF HOME; THE SERVANT GIRLS; JOTHAM'S BEES, BY JOTHAM'S WIFE.

I AM not an enthusiastic bee-keeper, but Jotham would like to be. I should much rather write for the papers at the price paid for Whittier's last poem. Some medium of exchange is what this house needs; and if I could see \$100 a year, clear gain, aside from all expenses of time and money and neglect of other business, perhaps I might become an enthusiast on the subject. I occasionally read GLEANINGS, and I feel pretty well acquainted with such friends of humanity as A. I. Root, T. B. Terry, Dr. Miller, Anna B. Quillin, and the late Mrs. Chad-dock. As "Rose Park," in the *Farm Journal*, she was generally equal to the emergency; let it be the thrashers' "unexpected company," "milking the skittish heifer," or whatever it was, she never seemed to be so badly caught but that she could find some way out.

Your splendid picture of the Brantford Convention makes me wish to live in Medina instead of here, because there is one man in that place who advocates woman suffrage—no, advocates taking his wife to conventions, even if she happens to think she can't leave home.

I like Mr. Terry's picture of home. It is not every one who has three rooms in the house to open for every-day use, but we can use what we have, and not keep one shut up the year round, never allowing the sun to enter for fear it will fade the carpet, till every thing in the room has a musty smell. If his children "go to the bad" it will not be for lack of pleasant home surroundings.

All honor and praise to those lady teachers at the convention, who remembered the law of kindness, and returned smiles and thanks for the thoughtful consideration of the table-girl at the Lansing hotel. Is it so much the position one occupies in life, as the manner in which that one discharges the duties of that position? If by force of circumstances an estimable young lady is *table-waiter* at hotels, I see no reason why she is not entitled to the same courteous treatment as if she were a clerk in a government department at Washington. Away with this caste spirit!

Man's inhumanity to man

Makes countless thousands mourn,

and how much of the needless suffering comes from selfishness on the part of those who could just as well scatter seeds of kindness as thorns along the byways of life! Fiction gives us some vivid pictures of the instinctive selfishness of man, but real life furnishes them every day.

Jotham has been in the bee-business seven years, and a subscriber to GLEANINGS four, and he threatens to send you a report of his success or failure, I don't know which he calls it. He has wintered (no, they are not wintered yet) 15 colonies in some new-fangled contrivance which he calls double-walled chaff hives, and thinks he is doing things scientifically. I don't pretend to know an Italian bee from a Cyprian, or a black bee from a hybrid; but if he doesn't put his threat into execution (and I don't believe he ever will) I will report next autumn, if this literary effusion escapes the waste-basket.

□□

JOTHAM'S WIFE.

HEADS OF GRAIN

FROM DIFFERENT FIELDS.

ALFALFA AND BEES IN IDAHO.

We were told that bees could not live through the winter here; that a number of people had tried, but always lost them. We got about 300 lbs. of honey in 1-lb. sections, as nice honey as I have ever seen. Near the water-courses there is an abundance of willows. On the mountains there are flowers. Then we have lucern (alfalfa) all over the country (in the fields), alsike, and other clovers; also a plant that is called here stinkweed, that is rich for bees. We should be glad to know its botanical name. Sweet clover is getting a start here, but many of the farmers don't like to see it. They consider it a pest.

A. J. FLACK.

Franklin, Idaho, Feb. 17.

Friend F., I do not see why bees should not winter with you. If the winters are very severe, all you need is good cellars; and these are a necessity in Wisconsin, Minnesota, and other cold regions.

GIVING BEES A SUN-BATH INDOORS.

One week ago I prepared a device which I called the winter sun-bath, to test its results with a single colony. By the use of hinges I widened the alighting board to one foot, of a Langstroth. Then I made a gauze awning, with triangular sides of drilling. Then when the day was warm I placed the hive in front of a south window, and let the sun shine upon them. In a few minutes the bees came out freely, and I fed them some honey candy which I made that was not sticky, of which they ate freely. Soon they commenced to void, and littered the whole front very much. At first there was great eagerness to get out and fly away, so I opened the window and let two go. In about a quarter of an hour one returned and alighted upon the awning; I took it with my handkerchief, drew up the elastic, and placed it beneath the awning, when it immediately entered the hive. In the course of two hours the bees commenced the work of clearing the hive of dead bees, but did not work with avidity. As it grew cooler I darkened the window, and the bees found their way into the hive, when I cleaned the alighting-board, and decided to give them another playspell the next day. I am in doubt whether it is a good thing for the bees, unless it is near spring time, as the action of the workers might hasten the development of the queen for laying, and, there not being the proper food to be had for brood production, it is possible that it might result disastrously. However, I find the awning a splendid thing in the dark, at a time when the weather is so warm as to set the bees in commotion, for many will come out of the hive and not be able to get back; but by preventing their leaving, none die by getting outside of the hive, as they all can find their way back again.

F. D. LACY.

Nirvana, Mich., Mar. 7.

Friend L., the above arrangement is substantially the same as we used years ago, when we were troubled with spring dwindling and dysentery. A little tent of cheese-cloth was put over the top of the hive; then newspapers were laid over the frames, so as to prevent soiling the top-bars. After the bees had flown inside of the tent, and emp-

tied themselves, and gone back on to the combs, the tent and papers were removed. Very likely some colonies were saved that would not otherwise have lived through until spring. Such treatment may, without doubt, answer nearly as well as a flight in the open air; but ordinarily I think that bees may remain for months in the hive without detriment; and even taking them out of the cellar to give them a flight, in pleasant weather in the middle of the winter, I believe is now mostly abandoned. Some of our veterans have decided that, even if some colonies are saved by such means, in the end it costs more than it comes to. Fix them up in the fall, so that they will not need any tinkering or care until they can be set outdoors in the month of April.

FRAME-SPACING; CARNIOLANS.

I have experimented a good deal with spacing frames. My eight-frame hives are all 12 inches wide, inside measure, giving 1½ inches to each comb from center to center. If bees build brace-combs between the combs you may rest assured that the combs are too near together. Then I have noticed that bees are more liable to swarm when the frames are hung too close to each other. Especially is this true of the Carniolans. I have reason to believe that larger bees are raised if the combs are placed further apart. My experience with Carniolans is, that they are not as gentle nor as handsome as the Italians; and my advice to all would be, "Stick to the golden Italians till we get something better."

W. P. TAYLOR.

St. Bernice, Ind., Mar. 10.

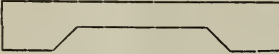
SWEET CLOVER AS A FORAGE AND HONEY PLANT; VALUABLE TESTIMONY FROM J. H. SNYDER.

IN GLEANINGS for Mar. 1 you ask for facts in regard to sweet clover for hay. I lived for three years on my father-in-law's farm at American Fork City, Utah. While there I cut and put up for hay several tons each year, the whole crop of hay on the farm amounting to about 300 tons. We had red-top, timothy, and all kinds of wild hay. You could turn the horses into the stack yard, and they would pick out the sweet clover in preference to all the rest; and the cows seemed to like it about as well as any. My brother-in-law has been feeding it to horses and cattle all winter—not range stock, but livery-stable horses that have been used to the best of feed, and he says they like the sweet clover as well as they do the lucern (we call it lucern here, not alfalfa). In putting it up for hay, according to my experience I would not cut it until well in bloom, because it is so rank and hard to cure if cut too young. Let it get full grown or in full bloom, and rake it soon after cutting. As for pasture, I consider it very good for a mixture. There are hundreds of acres of it around me. It seems to thrive best along the banks of streams where there is an occasional overflow for a short time. My Jersey cow lived on sweet clover principally, from May till frost killed it, which was pretty late this season; in fact, it was the last thing the bees worked on last fall. As for honey, well, ask Bro. Root. He sampled it while here.

DON'T LIKE THE FIXED DISTANCES.

Almost the first hives I bought had top-bars at fixed distances. They were 1½ inches wide, with a slot cut out of one side, something similar to a sec-

tion box, only the slot was made about $\frac{1}{8}$ deep, so that the top-bar was something like this, and $\frac{1}{2}$ in.



thick. I notice we have fewer brace-combs on these bars than any I have used; but I don't like the fixed distances. J. H. SNIDER.

Salt Lake City, Utah, Mar. 12.

I am well aware, friend S., that you have excellent hay from sweet clover in the vicinity of Salt Lake City; but is not the clover somewhat different there, on account of the alkaline nature of the soil, from what it is with us? We are very glad indeed to get your testimony; and I will try this year to cut some sweet clover while in blossom. My experiments heretofore have been with the plant long before blossoming. I do not believe, however, that sweet clover can be made to flourish here as it does with you.—I am inclined to think that 99 bee-keepers out of every 100 will say as you do, that they do not like *fixed distances* for frames.

DYSENTERY AND SOURED HONEY IN BOX HIVES.

I received your ABC some time ago, and have perused it well. I wonder, after reading it, how any man who has but a few colonies can get along without it. I was reading this morning on "Diseases of Bees." I have lost some from bee-dysentery. I have the old-fashioned box hives. I took the honey out after the bees were all dead, and I found, by examination, that half the combs were not capped over, and the cold weather had frozen ice over the combs. The steam caused by the bees' breath occasioned this. A warm spell set in and melted the ice, and it ran into those uncapped cells and soured the honey and gave the bees the dysentery. This is my opinion.

I am glad you have lived down all the saloons near you. May God speed the day when there will not be left in this fair land of ours one rum-shop to sell this liquid damnation.

Very affectionately your co-worker in Christ,
Asbury, Pa., Mar. 8. ELI ROBBINS.

I think your deductions are correct, friend R., and we had much the same state of affairs when we used to be troubled with dysentery. For some reason, however, we have seen very little of it of late years.

CUSTOMERS, AND 7-TO-THE-FOOT SECTIONS.

It has for some time been a question in my mind as to what is the best width of section to use. I believe we have straighter combs built when we use those 7 to the foot, open all around; but the trouble is, the customers seem to be under the impression that, when they buy a section of honey, they are to have a pound; and they are so often called a pound section, that, while we may not say there is a full weight, I fear some may think they are being deceived. I should like to hear what sized section our leading bee-keepers think is best to use.

ALFALFA, AND NECESSARY CONDITIONS FOR GROWTH AND HONEY.

I should like to have any one who is contemplating sowing alfalfa for bee-pasture consider the fact that it is necessary to have very hot sunny weather to bring out the honey. I know of but one small patch; and the man who has this says the bees do not work on it much. Although I have not tried it, I believe alsike is much better in this latitude, as

the bees work on it a great deal. Much of the time my field seems to be just alive with bees.

Linn, Kan., Feb. 20.

J. T. VAN PETTEN.

Friend V., I do not think that anybody can consistently complain because sections do not weigh a full pound, when they are sold by the pound and not by the piece. This matter has been pretty thoroughly discussed at conventions, and the general verdict seemed to be that the great world at large is better pleased with less than a pound than with more. For instance: A customer asks the price of honey. You tell him 18 cts. per lb. Now, if the one-pound section handed out to him costs less than 18 cts. he will not stop to ask questions, nor will he complain. If you tell him honey is 18 cents per pound, and he takes a pound section and is charged 20 cents, it requires a good deal more talk to make him feel satisfied than the other way.

RACES OF BEES; HOW FAR APART TO KEEP PURE.

How far apart must the different races of bees be kept to be sure of the queens mating purely? One bee-keeper and queen-raiser with whom I have had some dealing, says they will not mix if 80 rods apart, which I think is a grave mistake, if one is in the queen-business. G. S. WHEELER.

New Ipswich, N. H., Feb. 21.

Friend W., the talk about "rods" in the matter mentioned is an absurdity. To prevent bees from mixing they must be separated nearly twice the bees' flight—that is, if you want to be absolutely certain about it, and that would mean not less than five or six miles. Most queen-breeders, however, manage in a much cheaper way than moving the bees to such a locality. If there are black drones within half a mile of you, raise so many Italian drones that you have a hundred to one of the black ones, and you will not have much trouble with hybrids.

SPREADING BROOD IN THE SPRING A SUCCESS.

On page 93, Feb. 1, Mrs. L. Harrison takes Mr. Doolittle to task for his advice to spread the brood in the spring for the purpose of producing strong stocks, and Mrs. H. tells us that it proved to be a total loss, and she therein owns up that she did not strictly adhere to the Doolittle method. Now, right here I wish to go on record as saying that there is no let-alone method or any other method in practical use at the present day, or ever has been, that will produce the working force or strength of colony that the Doolittle contracting and gradual expanding method does. I have tried it faithfully since 1878, making 12 seasons, and not with a few picked colonies, but I have used dozens, and in the same yards with the let-alone method, and the Doolittle method is sure and wins every time. The time that I begin spreading brood varies from the 13th to the 20th of March, and there are dozens of persons who can vouch for the reason why I often have bees working in the sections on Decoration day, May 30, building comb. I defy any man to obtain the same strength of colony by any other method; and it pays, too, because I have two good strong colonies to run full blast on the basswood and sumac. Doolittle has very often cautioned against spreading the brood too fast. I advise all to start early, contract close, and let the first lot of brood replace the old wintered bees, because, if you count on the use of the old bees for

more than their equivalent number of young ones, you will be disappointed.

AUTOMATIC SWARMING.

The article on page 133, Feb. 15, the principle of it has been used for years, and was in practice before Doolittle or I kept bees, perhaps before we were born. The Ohio Combination hive, built away back in the fifties, was just that thing exactly, and Mr. Phelps, in his book, published prior to 1865, and sold with the Combination hive, calls this method of placing hives side by side, the "Subtended" system. There were no less than five different makers of hives of the Subtended system, prior to 1867, that I know of, and have seen and used. Phelps also describes two other systems, the super and the Nadair systems, and some of these hives are still in existence, one of which I know of, that is 47 years old, and is now in use. Its super parts are less than 6 inches deep and 4 in number; so you see, Mr. Doolittle, that your questioner is only waking up the sleeping past. From what I have seen of the Subtended system for the past 30 years, there is no reason why it can not be made practical; but I do say, that tests have given evidence that it is not profitable; and to the readers of GLEANINGS I wish to say that the Subtended system has been used here in Connecticut to the obliteration of whole apiaries; so, go slow and don't fuss with very much. I have tried it to my sorrow. Furthermore, H. D. Davis & Co., Brantford, Vt., are out with a circular of a patent hive, to stand the brood-chamber on end for wintering. That has been in practice away back into the seventies. His sections are held in cases long in use, and the most if not all of his combinations are now in many apiaries, giving another phase of original (?) inventions miles apart, for some one to fight over and pay lawyers' fees.

H. L. JEFFREY.

New Milford, Ct., March 3, 1890.

PUTTING BEES IN AND TAKING THEM OUT OF CLAMPS; HOW TO DO IT.

Would you please let me know how a person can manage his bees in the fall, also in the spring, when putting them in and taking them out of clamps, so that the bees will not get lost on account of the hive being moved? I find if I clamp mine early in the fall, and leave them in the clamp until late in the spring as I should, so as to escape spring dwindling, then move them, many of the bees get lost.

Post Perry, Ont., Can., Feb. 16. C. J. PEARSE.

We infer from the above that friend P. has in mind a clamp made by moving the hives close together, and permitting the bees to fly while in the clamp. In that case there is no remedy that I know of, and his trouble is the principal objection to clamps made in that way. The bees will be confused when you move them up close together, and again when you set them apart in the spring. There are some who have practiced this plan, notwithstanding, but I believe the arrangement is mostly abandoned.

HONEY FOR DYSPETICS.

As friend Dadant stated in GLEANINGS, Feb. 15, page 130, that honey is hard on dyspeptics, I thought I might give some of my experience in regard to honey as food for persons affected with indigestion. I had been bothered with indigestion for ten years before I had anything to do with bees or honey, scarcely ever tasting honey; and when I first be-

gan in the bee-business, honey would sometimes hurt my stomach, but not seriously, and I kept right on eating it, and have been eating it for twenty years. I have eaten more this winter than usual, and my digestion is better than it was twenty-five years ago. I have eaten extracted honey almost altogether, though, so I think honey agrees with me better than sugar we get at the stores. Friend Root, have you tried heating the honey to the boiling-point before eating? If not, try that, though there are people who can't stand honey in any form. But that does not prove it unfit for dyspeptics in general. That is for each to decide for himself, and not take anybody's word for it. Sometimes it is the comb that gives or causes pain, and such can eat extracted honey; and if that gives trouble, heat it; and if they are still troubled, I don't know what to recommend unless it is to stop eating it.

Bedford, Iowa, Feb. 26.

J. S. WILLARD.

GETTING BEE-SUPPLIES MADE AT LOCAL PLANING-MILLS, AND THE RESULT.

I received my goods a few days ago, that you shipped Feb. 17. They were delayed on the road nearly two weeks, but I generally get them in three or four days. On opening them I found them well packed, and every piece ordered, and every thing of first-class work. I am a man of small means, and I go just as far as I think my money will permit. It does me good to pay for goods that are first class; but I should hate to pay for inferior or un-serviceable goods. Now, just this one time I tried a carpenter here, who has a regular shop (horse-power) with, as he says, all necessary machinery. So I figured and found out I could save a couple of dollars by having him cut me out the bodies of twenty hives, tops and bottoms, and the two dollars saved would pay for what I had to order from you. Well, I have the goods from him, and the goods from you; and I tell you, if the good Lord will forgive me this time I shall order all I need after this from A. I. Root, for I had an awful time putting the home-made bodies together; and as to your chaff hive I sent for, I gave it to my wife, as it was the only one I have; but they are so neat and grand I expect to adopt them as fast as I can. I assure you it does me good to see a man in so large a business so full of God's work; and I only wish I had as much of his work in my heart and soul. Please print this letter so the world can see what your customers in Central Illinois think of A. I. Root.

R. S. JOSEPH.

Litchfield, Ill., Mar. 5.

Friend J. I am exceedingly glad that you have found every thing all right so far from A. I. Root; but I want you to scrape up patience for the time in the future when it will not be all right. And I wish you to have a little more charity for your planing-mill man. With a little showing and a little more pains he will probably make your hives just as well as we can. You ought to be with him and stand by him when he makes the first lot; also have on hand some samples of our own work to compare with his.

WHAT SHALL A CHRISTIAN DO IN REGARD TO BUYING AND SELLING ON SUNDAY?

I have been trying to find in GLEANINGS, from the experience of others, what occupation to combine with bee-keeping. Since reading your conver-

sation with Gov. Hoard, at Madison, I think I have found it. I live near enough to town to sell nearly all the milk I can get from eight or ten cows; but there is one point about it I want to ask your advice on: that is, if I sell my milk my customers in town who can not keep a cow will want their milk just the same on Sunday as they do on any other day, and the cows have to be fed and milked just the same. Some of the mothers have babies that need fresh milk twice a day. Will it be breaking the Sabbath, or violating God's law to deliver milk on that day? The laws of our State permit it as necessary labor.

A. R. JONES.

Lebanon, Mo., Feb. 17.

Friend J., you have struck on one of the hard problems. I know of some who sell milk who do not take it around on Sunday; and there are many Christian people who refuse to buy milk on the Sabbath day. Now, if you could find enough such customers for all your milk, that is what I would advise. Where there are babies that need fresh milk during the hot weather, if it were myself I should prefer to carry it to them without charge. If you make the matter a subject of prayer, and try to be guided by the Holy Spirit, I am sure it will prompt you right. I am very glad, dear brother, to have you come to me with such a question, not because I feel that I am able to answer it the best way, but because it indicates a desire to serve God and your fellow-men in the best way.

CARE IN QUOTING SCRIPTURE; REMEMBERING THE SABBATH, ETC.

Dear Bro. Root:—Referring to Our Homes text in last issue, I notice you make, and argue from, a misquotation (a quite common error). The word "weary" does not occur in the passage chosen. You quote it properly toward the last, but that does not atone for the prominent position given the error. I subscribed recently for GLEANINGS, purely for these talks, ten years having elapsed since I took it as a matter of business; and I must say I was painfully surprised, that, after your being in a focus of light, as it were, so many years, you could, with so little disturbance of conscience, resort to the street-cars in Chicago upon a recent Sabbath. It seems to me that no one can carefully read God's word through, noting the multitudinous expressions of our Father's will with relation to his day, and the fact that, among the commandments, more words are given to the fourth than any other, without concluding that upon this day the *earning capacity* of the world, so far as it relates to temporal matters, is to *cease* and for *one day* live by faith; and to please our Father, we are to deny ourselves for the sake of the day he holds so dear. If street and railroad cars *should* not run, it seems that Christians can only treat them as if they *did* not. But I have no time to go further, although, of course, much might be said. You are sincere, your purposes are good, and God is using you, as I believe, for the enlightenment and comfort of many; but I felt like saying what I have.

R. B. KINSEY.

Reading, Pa., Feb. 18.

Dear brother, I thank you for your kind way of pointing out our carelessness, and we will try hard to quote Scripture correctly hereafter. But still we trust we did not violate the plain teaching of the Bible; for in Jeremiah 31:25 we read that God says,

in speaking of the blessings that should come through Christ, "I have satisfied the weary soul, and I have replenished every sorrowful soul."—In regard to the Sabbath day, I thank you for the suggestion you make; and I believe I fully agree with you. My conscience troubled me every minute of that ride on the street-car, and I don't believe I shall use street-cars again. The ride, however, gave me a new light on the subject. I supposed street-cars were used, at least largely, by those attending church. I found, however, that the conductor could not tell me where Plymouth Church was, nor could any of his numerous passengers; and when the car passed near by the entrance of the church, not one on that loaded car got off except myself. I do not wish to dictate a line of conduct for others; but the next time, I think I shall look up a church near by, before Sunday comes, and avoid, as you suggest, *traffic of all kinds on the Sabbath*.

BEEES WINTERING OVER, HANGING ON A BUSH.

A friend of mine has found quite a curiosity in the shape of a swarm of bees hanging on a bush, where they have built combs two feet or more long, and have wintered out in the open air, and are at work getting honey and pollen now. They are in an old field near the Mississippi River, which is on a rampage now. They were pulling a skiff through the old field in the overflow when they found the bees. The bees are about 4 feet from the water, and are in danger of being overflowed. The same man found a swarm last fall, hanging under a log in a drift-sack in the Missouri, and he got 20 or 30 lbs. of nice honey. The winter has been very mild. Our fruit-trees are in full leaf, and a great many forest-trees are in full bloom.

By the way, here in the bottoms, where the acorns and seed drift together, there are millions of little trees, from a foot high up—oak, pecan, ash, sycamore, and various others. Now, could these trees not be used to great advantage by our friends in the treeless portions of the United States? If they could be used, the supply is unlimited, and I should be glad to take them up and send them to parties wishing to plant trees. If you think they would sell, let me know and I will put an advertisement in GLEANINGS.

W. MCLINDEN.

Gaines Landing, Ark., Feb. 22.

Friend M., we have many cases like the one you mention. Not only down in Arkansas, but even here in Ohio, during mild winters, bees sometimes winter without any hive at all. In California, and other districts where the rain is limited, it is quite common.—The above notice will tell you whether or not it will pay you to advertise.

THE WINTER IN CALIFORNIA.

This has been the worst winter known in California for a great many years. Snow has fallen to the depth of 40 feet on the summits of the Sierra Nevadas, and at present writing it is still snowing. Generally a rainy season here foretells a good honey crop, so we must be going to have a good crop the coming season. I noticed here at Placerville this morning, almond-trees in bloom, all covered with snow. If there would be a few days warm weather, the peach-trees would be in bloom, as they generally bloom here by the middle of February.

Placerville, Cal., Feb. 17.

S. L. WATKINS.

ALABAMA AND ITS HONEY-PRODUCING-PLANTS, ETC.

Some of the friends who read GLEANINGS wish to hear from a point further south than Tennessee. We have 130 colonies of Italian bees on the summer stands. We increased them in 1889 to 14 colonies, and secured 50 lbs. per colony, mostly extracted. The bees are bringing in big loads of nectar from various flora, but the principal source is titi bloom. Titi is an evergreen. It blooms when 4 to 5 feet high, but grows to a height of 20 feet, and 60 per cent of our honey was from it last year. The extracted honey sold at 10 cts. per lb.; comb in 1-lb. sections, 15 cts. Bees have been on the wing nearly every day this winter, if winter you may please to call it. Only one morning, Nov. 18, 1889, my thermometer registered 32°. Last year's foliage has not all been cut from the peach, pear, plum, quince, and apple trees. The apple-tree (one of them) has young growth 8 inches long; the elder, 25 inches; strawberries and plums (Japan) are ripe. The truckers are shipping garden vegetables north by the carload. My beautiful roses are in bloom every month in the year. Young bees are flying. I had young drones flying on the 7th of January. I should be glad to see some of the friends who suffer with the cold and hunger out in Dakota down here. I tried Northwestern Texas, but the little blizzards and dry spells were far from being agreeable, and I came here. The climate and the good people who live in Alabama are all right.

Whistler, Ala., Feb. 14.

A. M. HOYLE.

HOW TO SELL BUTTER AND HONEY AT GOOD PRICES.

Friend Root:—There is one thing I do not think you can agitate too much; and that is, to educate the producers of our country to sell their produce to the consumers as much as possible themselves. I think they will be surprised at what they will learn and can do by having a good article that will please their customers—that is, if they have the Christian spirit, and love their neighbors as they ought.

Two years ago my wife and I were making gilt-edge butter, but could get only 12 cents per pound for it, at the store. We thought it did not pay to make butter at that price, so I said to my wife, "Why not take some samples and find some private customers for our butter?" We did so, and secured three who would take such butter as we were making, and pay 15 cents per lb. for it. We took pains, and made nice clean sweet butter, and salted it to suit each one's taste. The result was, when winter came we got 22 cents per lb., and we could not supply the demand at that. Now, this will apply to honey, berries, and other produce. Have a good article, put it up in a neat clean package, with good weight or measure; and if you are pleasant and accommodating, and try to please your customers, success is certain. I know this to be so, for I have sold small fruit in our city of Columbus for the past 12 years, as well as honey and vegetables, and I can sell just as much now as at first. But whoever goes to peddling must make up his mind to work as hard or harder than if he were hoeing corn.

Columbus, Wis., Mar. 10.

R. B. KIDDER.

A HONEY PICNIC.

Rambler's way of raising honey reminds me of a way by which we succeeded in raising about forty pounds last September. We invited the Sunday-

school children to come to our place and have a honey picnic one Saturday afternoon. Thirty of them came; and after playing at various games until they were hungry they were invited to the tables. The tables were set in a nice shady place and were well supplied with bread, butter, cake, honey (both comb and extracted), and milk for them to drink. It was a very pretty sight to see them enjoy their lunch as well as their play. There is but one family among them that have honey to eat at home. After playing an hour longer they were each given a nice section of honey, put up in paper cartons, with labels, to take home. We all enjoyed this way of "raising" honey so much that we have decided that the honey picnic shall be an annual gathering as long as we have fair crops of honey.

A. C. BUGBEE.

Lochiel, Ind., Feb. 13.

THE QUEEN.

I have some beautiful lines written by our village poet, a eulogy on the queen, written at my request this winter, to help me out on a lecture or bee-talk that I gave for the benefit of our Sunday-school. I was so wrought up with the beauty and majesty of the queen in writing about her that I could not express myself in terms as suitable as I thought she deserved, so I called upon him to help me out, and this is the way he has done it.

T. O. PEET.

Arlington, N. J., Mar. 6.

The following is the poem :

On a throne of gold—ay, purer far
Than light of sun or moon or star,
I hold my reign, with royal sway,
Over my subjects, day by day.
My hive, a tiny, busy world,
Where labor's flag is never furled.
A lesson to the earth I teach,
Perfect beyond all human speech.
When spring, with all its luscious sweets,
Ladens the air; when summer greets
The earth with larges of delight,
Then do I reign with glorious might,
Queen of my own enchanted sphere,
Ruling my subjects far and near.
There are "workers" in our busy land,
And "drones." They're seen on every hand;
But a lesson from the busy bee
The outside world may learn from me:
That in labor there is sweetest zest;
That the fruits of toil are still the best.

JOHN KEYNTON.

Pretty well done for your village poet, friend P. I should have enjoyed being present with the rest of your Sunday-school.

HOW WE FIX OUR L. HIVES TO MOVE THEM.

In the spring of 1886 we moved 24 colonies in our quadruple hives 8 miles, over some very rough roads, on a lumber wagon, with no springs, and we did not break a comb nor injure the bees in the least. We use wooden frames made out of $\frac{3}{4}$ " x $\frac{3}{4}$ " lumber, 8 frames to the hive. When the frames are in the hive there is a $\frac{1}{2}$ " space above the frames at the top edge of the hive. Now, to secure the frames so they would not slide together we cut a piece of frame stuff just long enough to go across the

frames. We cleaned off the frames on top of each end, and laid one of those pieces flatwise across the ends of the frames, and nailed with 3-penny wire nails down through the piece and frames into the wooden rabbets that the frames rest on, putting three nails into each piece—one at each end and one in the middle. We could have put one nail into each frame if we had chosen, then the frames could not move, as the piece nailed on top holds them firm. This way of fastening will not cost a cent, as the pieces of frame stuff can be used after to make frames of. It is a very easy thing to pry up the pieces and take them out, after we have the bees moved, and then we have no staples to be in the way when we are handling the frames. As for spacers in the hanging frames, I don't want any. I can, with my eyes and fingers, space them in a quarter of a minute, very nearly as true and even as can be done with a measure. E. FRANCE.

Platteville, Wis., Feb. 5.

OUR QUESTION-BOX.

With Replies from our best Authorities on Bees.

All queries sent in for this department should be briefly stated, and free from any possible ambiguity. The question or questions should be written upon a separate slip of paper, and marked, "For Our Question-Box."

QUESTION 158.—*I have two out-apiaries, three and five miles apart respectively, from my yard. Would it be cheaper for me to keep a horse and wagon the year round, or hire a livery during that part of the year when I need to visit the apiary or haul sections, supers, etc., back and forth?*

Keep a horse and wagon.

Wisconsin. S. W.

GEO. GRIMM.

If that is all the use you have for a horse and wagon, hire them.

Ohio. N. W.

A. B. MASON.

I believe I would have the horse. They are convenient at all seasons.

Michigan. C.

A. J. COOK.

Probably the livery, if not too high priced, if you have no use for the horse for any other purpose.

New York. C.

G. M. DOOLITTLE.

I suspect that would depend much upon how you are situated. For me it is much cheaper to keep the rig myself.

Illinois. N.

C. C. MILLER.

Knowing your surroundings and conditions, you ought to be able to answer that question better than any one else.

Illinois.

MRS. L. HARRISON.

It seems to me that the owner of three apiaries would need and could afford to keep a horse the year round.

Illinois. N. C.

J. A. GREEN.

That depends upon the cost of the livery and the cost of keeping a horse in your place, and the way in which you work your bees, etc.

New York. C.

P. H. ELWOOD.

That depends upon how often the inquirer visits his apiaries, and what the expense of hiring a livery is. With me it is cheaper to keep a team; and very much more pleasant.

Vermont. N. W.

A. E. MANUM.

This can be answered only by one who knows the local circumstances.

Cuba.

O. O. POPPLETON.

With our management and hives, and if we had no other use for a horse, we should prefer to hire a horse and a buggy or wagon.

Illinois. N. W.

DADANT & SON.

It depends on how much the horse may do during the rest of the year to help pay his board. I guess it will be safer for you to answer this question for yourself.

Ohio. N. W.

H. R. BOARDMAN.

If you have no other use for the wagon and horse, I have no doubt it would be much cheaper to hire, as a horse must be fed and attended to; and no doubt that the cost of his keeping during the winter only will more than exceed the rent.

Louisiana. E. C.

P. L. VIALLO.

Sometimes a horse and wagon can be secured for a part of the time on very favorable terms, and sometimes it can not. Let the good brother inquire and see what he can do. On general principles, I think he will oftener find it cheaper to own his rig than to hire it.

Ohio. N. W.

E. E. HASTY.

Perhaps a bargain could be made with a livery for the season that would enable you to hire a horse cheaper than you can keep one. There would be this disadvantage—you would have to get acquainted with a new horse nearly every time. You might get a kicker or a baulker. So, taking it all in all, I would keep a horse the year round.

New York. E.

RAMBLER.

I should say, hire a horse and wagon if you have no other use for the team. We keep two horses of our own, and all the wagons we want to use. But we have eleven acres of land to work in small fruit, etc. We hire an extra team about a month when we are extracting honey, at a cost of \$1.50 per day, and feed the team, which is much cheaper than to own the extra team, and feed and care for them the whole year.

Wisconsin. S. W.

E. FRANCE.

I have tried both ways. I found it very difficult to manage my bees in out-apiaries without a horse at my own control, that I could command at a moment's warning. The most clean money I ever made in bees was when I rented a place to live and keep the bees for \$100 per year. I kept 100 stocks in the one place. My advice is, to hesitate before establishing an out-apiary and increasing expenses.

Connecticut. S. W.

L. C. ROOT.

You are the man to solve this problem. Find out what the liversies will cost you, then figure the other side—cost of wagon, horse, harness, and feed, and the probable time that they will last. You may decide that it is cheaper to hire; but most bee-keepers have uses for their horses, other than going back and forth to their apiaries. I hitch mine up almost daily (Sundays not excepted), and like to pull the lines over good ones that can go faster than I can.

Wisconsin. S. W.

S. I. FREEBORN.

Every thing depends upon your circumstances. If I were in your place, and had a small farm, and could get a cheap pasture and a good barn, or room to build one, and had a wife or daughter who liked

riding, and if I liked to ride myself (and I do), I would get a horse, surely. But, on the other hand, if I ran a newspaper and advertised for a livery stable, and could not get my pay in any other way, and had no place to keep a horse, and my wife hated the pesky thing, and I did not care to ride, I believe I would hire a livery, wouldn't you? I wouldn't place an out-apiary so near as three miles to another; nothing less than four, and six miles preferred.

Michigan. S. W.

JAMES HEDDON.

The above has been answered so fully that there is little to add, and friend Heddon gives the final summing-up in his peculiar, terse, and quaint manner. For my part, unless my means were exceedingly limited I would have a horse and buggy of some sort, and then I would make it a study to find something for the horse to do during the rest of the year, so as to make him pay for his feed. For some time we have been keeping three horses here at the Home of the Honey-bees; and when the weather will permit I make it as much a part of the business to hunt up work for the horses as for the men and boys. In fact, we have a regular table of prices, something like this: One horse, wagon, and driver, 25 cents an hour, for less than 10 hours; over 10 hours, 20 cents; two horses and driver, including the use of any of our farming tools, 35 cents per hour; 10 hours or over, 30 cents per hour. In this way we manage to keep the horses busy about every day if the weather permits. During the present season we shall have four horses, including the pony. The pony, however, belongs to the women-folks, with the understanding that they are to have him whenever they want him, no matter about the business. When they do not want him we can work him as circumstances may require.

SPECIAL DEPARTMENT FOR A. I. ROOT, AND HIS FRIENDS WHO LOVE TO RAISE CROPS.

That art on which a thousand millions of men are dependent for their subsistence, and two hundred millions of men expend their daily toil, must be the most important of all—the parent and precursor of all other arts. In every country, then, and at every period, the investigation of the principles on which the rational practice of this art is founded ought to have commanded the principal attention of the greatest minds.

JAMES F. W. JOHNSTON.

OUTDOOR GARDENING FOR 1890.

At one time in February we were just about planting our peas, but it rained, and made the ground wet; and from that time on, through the whole month of March there has not been a time when the soil and weather were suitable for planting. This second day of April it came out quite warm and summery; but as there was a heavy frost last night, we could not find ground in fit condition to receive seed, except the south side of some ridges left where the new Rose celery grew last year. It made such a tremendous growth that the ridges were nearly two feet high; and after the celery was taken out they stood all winter, high enough to be free from the wet. With a wheel-hoe we made a shallow furrow on the south side, near the top of the ridge, and the ground was as mellow and warm under the April sun as

one could ask—that is, if we did not go down more than two or three inches. We planted both Alaska and American Wonder; and the ground raked up so nice and mellow, when we got through we put in Eclipse beets. Scarlet Globe radish, Silver King and White Victoria onions, so we have got some outdoor gardening under way after all. Some American Wonder peas on the south side of our brick buildings are now about two inches high; but they have been frozen and thawed so many times during March that they look rather sorrowful. A good many other plants—spinach, corn salad, etc., that stood the winter with comparatively little injury, have been a good deal injured by frost during the last week of March. I am inclined to think the very best way to start early stuff, especially where we have so much wet, is to put it on ridges like those left by the celery. Of course, we can not do very much cultivating among them by horse power; but the very early can be worked by hand, especially as not very much of any thing is needed for the very first. The main crops fit to be cultivated by horse power come along in a very few days after.

April 3.—To-day we are having a succession of warm April showers. The temperature is 60, and no wind. Our tomato-plants are in pots outdoors in the rain. Sash are all raised to the highest notch; greenhouses are opened as wide as possible; transplanted plants in the open air are beginning to smile at the biting frosts that have made them look so sad and sorrowful. I have just asked Mr. Weed how much it would be worth if we could strip every pane of glass from all our greenhouses. He said it would be worth a five-dollar bill anyhow, just for this one day. You may say that plenty of ventilation and plenty of water will do about as well. Now, my experience is that it will not do any such thing. A drizzling April shower for several hours, with an occasional hour of sunshine, is ahead of any watering that man can invent. Why not go back to the old time-honored plan of movable sash, to be lifted on and off? Why, it is too much labor. It is true, we may not need the sash again for days; but it is also true that they may be needed in only a few hours. There is no remedy, so far as I can see, except a realization of my particular hobby for months past; namely, having our greenhouses arranged so that the entire covering can be removed in a few minutes, and put back again in a few minutes, all to be done by proper machinery, and under the control of a single individual. Our tomato-plants had commenced to be infested with the green fly. I know from experience that this April shower will cure them completely; that is, where they are in pots so we can set them outdoors. Those in beds that can not be exposed to rain, will have to suffer. Sprinkling them for hours together so as to imitate rain will not answer unless there can be an amount of ventilation almost equivalent to the open air, so that they may dry off fast enough to avoid the consequences of too much wet. It is a mystery to me why florists and raisers of vegetable-plants do not see the matter as I do.

OUR HOMES.

Rejoiceth not in iniquity—I. COR. 13: 6.

A FEW evenings ago, before our teachers' meeting opened, I remarked that I had got hold of a new and beautiful text. When asked what it was, I repeated the words at the head of this talk.

"Why," said our pastor, "you have had that before;" but when I told them I was sure they must be mistaken, one of the teachers also insisted that it was either the very same text I had a few weeks ago, or remarkably like it. And she added, further, that it was certainly something about iniquity. I felt sure I was right; but it was some minutes before I remembered my other text: "Thou hast loved righteousness and hated iniquity." Of course, you all remember the latter. In that case it was *Jesus* who hated iniquity; but in the text before us, Paul is speaking of human beings who, if they do not really love iniquity, perhaps sometimes unconsciously have a fashion of rejoicing, or at least seeming to be pleased, when they come across iniquity in the acts of their friends and "neighbors." Of course, we do not rejoice at finding iniquity in our *own* hearts—at least I never heard of such a case. But I am afraid that even the best of us do, too often, harbor thoughts and feelings that are at least a little like rejoicing. As an illustration of rejoicing in iniquity:

A friend of mine is a schoolteacher. After having taught quite successfully in a country school he was invited to take a larger school in a town near by. I do not know whether it is always true that there are more bad boys in the town than in the country, but it seemed so in this case; and these boys, emboldened, probably, by their previous experience in getting the upper hand of teachers, persecuted our friend severely. He went to the directors about it, and they told him to make the boys behave, even if he had to take the poker or a stick of wood, and *knock them down*. My friend, however, is a follower of Christ, and he told them he did not feel called upon to resort to such methods to enforce obedience with grown-up young men. The boys discovered this, and took advantage of what might be called his Quaker principles, and overpowered him. As he stated it to me I told him I believed he erred on the right side. The directors, however, thought differently. Instead of expelling the boy who took the lead, they told my friend they preferred to hire a teacher who would enforce obedience.

Let us, while we are about it, consider this matter a little, even if we are digressing from the subject of our text. Those who read the papers are aware that it is not uncommon to have lawsuits grow out of this very matter of making bad boys obey the teacher at school. Pupils have been maimed for life, and I do not know but that a few have been killed by teachers who felt it incumbent on them to enforce obedience, even if they were obliged to use any weapon they could get hold of. Which is the better way—to ask the directors to take the boy out of school, or administer a thrashing that seems

the only alternative left, because he was never made to mind at home? I suppose that circumstances would alter cases; but I should very much fear to advise a teacher to conquer in that way, for fear that he might let his temper get the better of him, or by mistake do more injury than he intended to do. All things considered, I felt pretty well satisfied that my advice was safe, even though my friend lost his school by following it. Many teachers have a faculty, or have learned by experience, if you choose, to enforce obedience without striking a blow, something on the principle that I made old Charlie step into the thills by simply having a piece of lath in my hand. Now for the application of our text:

My friend secured another school, and taught it quite successfully. The directors of the first school employed another teacher who thought he could make the boys mind. Of course, my friend was watching anxiously to see how teacher No. 2 would come out. As he is a follower of Christ, he could not consistently hope that No. 2 would have trouble with the boys. If he did have trouble trying to conquer by brute force and main strength, would it be wrong for teacher No. 1 to feel glad just a little? Certainly it would, because it would be rejoicing in iniquity. My friend prayed over it, and climbed above the temptation. No doubt he said many times in his heart, "Get thee behind me, Satan. I do not want this teacher to have any trouble, even if I did have trouble myself. I honestly hope he will succeed with the boys, even though I failed." He did all this, but he said it was about all that human nature could stand. Now, dear friends, have you any like temptations? Is it a hard matter for you to go through life without any disposition to rejoice in iniquity?

This disposition to rejoice in iniquity is, perhaps, the foundation for the greater part of the scandal and uncharitable speaking that we have in the world. Somebody who has borne a good reputation, and made a fair record for years, suddenly does something shameful. The story of it passes from mouth to mouth. It seems as if the greater part of the community talk it over as if it were not only something funny but pleasant to think of. Of course, they say, "Is it possible?" and, again, "Who would have thought it, after all the profession he has made?" and still others, a little lower down in the scale, add, "There is one of your pretty Christians;" and then somebody else says, "Well, that is about the way they all turn out. The world is full of hypocrisy;" and then somebody adds, "Well, I do not make any profession; and I guess, when you get right down to it, it is all a pretense, anyhow, and just a kind of game to make folks believe they are a little better than common people."

Did you ever hear any such talk as the above, dear friends? Were you ever in any sense guilty of rejoicing in iniquity in that way? Well, I hope you are not. For one, I am guilty in that very line. I do not mean that I indulge in any such speeches as those quoted last; but I catch myself every

little while doing something or saying something that is just a little bit in the line of rejoicing in iniquity. I am guilty, too, in the way of exaggeration when repeating accounts of the wrong doing of my fellow-men. Somehow—I do not know how it is—it seems as if I did not mean to do it; and yet before I know it, it slips from my tongue. It is very natural for me to exaggerate in repeating things. When I get to telling a story, Satan suggests that a little guessing at something I do not know *all* about will not be out of the way. With the terrible tussles I have had with the evil one, and of the triumphs that have come, it would seem as if I ought to be a pretty fair sort of Christian. My friends, I *have* reformed and improved in some directions; but I am almost as bad in some other things as I ever was. I told you of a certain sermon a few Sundays ago, and of the conflict and final triumph over certain worldly matters. Well, the next Monday morning I started for the factory to take up the duties of the day, with a heart full of praise to God, and, as I *supposed*, love for every one. It did not seem possible then that there was any thing in my heart that could prompt me to rejoice in *any* kind of iniquity. The first person I met told me of some wrong doing that aroused my indignation. In a moment it brought to mind some experience I had had with the same individual. Now, there was not a particle of need that I should say any thing about it at all, or help make out a worse case against the poor brother under discussion; but before I knew it I told the circumstances to my informant; and just as soon as he passed along I discovered that I had not only told a truth that need never have been told, but I had added a little. Now, dear friends, you might suppose that my addition would be in the good brother's favor, and a little plea for his better qualities, but it was not. I felt sad and ashamed to think that I had, the very first thing that bright new morning, at the beginning of another week, been rejoicing over iniquity. After the victories of the preceding day, I fear I had begun to consider myself just a little bit of a saint. I had been repeating the verses and the promises to those who overcome, and I was one of the "overcoming" sort—at least I thought I was. But now I felt like saying to myself, "You *poor miserable* specimen of a Christian! You have fought a pretty fair battle in one line, and Satan has been routed; but in other respects you are *A. I. Root* still, and a very ordinary, commonplace sort of chap too. You are the "same old sixpence," and are likely to be to the end of your days; and the sooner you get rid of all moonshiny ideas in regard to being a *saint* among a lot of *sinners*, the better it will be for you."

Once in a while I get on a good streak, and take the part of somebody who has been assaulted; but sometimes I think that my greatest motive in doing *this* is that I may get a little praise by hearing some one present say, "There, that is just like you. You find something *good* in everybody."

A few times I have heard remarks like the above; but it came from somebody who did

not know me very well—somebody who generally sees me with my Sunday clothes on, and hears me talk when I feel very pleasant and kind. Yes, bad as I am I do have *good streaks* once in a while; but, dear friends, I do have bad streaks too; and it seems to me as I write to-day, that the very worst thing about me now is that old unconquerable habit of seeming to rejoice just a little when somebody shows out something sinful. I do not know how it is, for I am sure that, as a rule, I do *love righteousness* and *hate iniquity*. Yes, in the abstract I am *hungering* and *thirsting* after righteousness; but for all that it comes natural to have a little fun when somebody has exhibited human weakness. In the mails yesterday or the day before, some good brother wrote to me to the effect that *he too* was rejoicing in having been emancipated from the bondage of a cloud that hung over *his* spiritual progress. Said he, "Bro. Root, the whole trouble with me was *pride*; and the biggest part of the cloud was the consequences and results of pride. I wonder if it is not possible that the cloud that darkened your spiritual sky was in the same line." I guess, dear friends, it was; and one reason why it comes so natural for me to rejoice in iniquity, is, that I begin to show off something after this fashion:

"You see, friends, what a bad and wicked world this is. There is wickedness all round about us. The greater part of the people are corrupt. Now, do you think I would have done any thing like that? Why, I would no more be guilty of that than any thing in the world. I got past such things as that years ago." And then I congratulate myself on being a little ahead of the rest of the world.

Now, friends, right here is where the rejoicing in iniquity comes in. We get it into our heads that we should stand a little higher by holding up prominently the weaknesses and delinquencies of others, just in the same way that rivals in business matters run down each other to exalt themselves. How often the editors of rival papers and journals fall into this deplorable sin! They watch each other (which is right); and when the rival brother makes a blunder it is held up and commented on in a way calculated to draw a contrast in favor of the writer, who, perhaps, without knowing it or thinking of it, gets to rejoicing in iniquity. In fact, he often feels *tickled* to feel that he has got hold of something that will rub hard on his brother editor, and put him in a bad predicament, if he tries to explain it away. I fear some of my editorial brethren will hardly believe me when I assure them that, by speaking well of an opponent, they will exalt themselves *ten times more* than to be picking at them. Christian courtesy should keep us from holding up to public view every human weakness. May God grant that the day may soon come when there shall be this Christian courtesy among editors. Once in a while somebody sends me a communication reflecting on some of the other bee-journals. When we tell him we can not give it a place in our columns, he sometimes replies that the public good *demands* that it be made public. Now, even

if this were true, I should be sadly out of place in undertaking to make it public. You may say, "How, then, shall community be warned?" Well, I can not answer that; but I do feel sure that I am not the one to make public the shortcomings of some of the other bee-journals. One very plain reason why I should not undertake it is because the world at large will consider me an *interested* party. For this reason alone, we should forbear. Christianity demands that we be *generous* toward rivals, even if we are generous to nobody else. Beware how you undertake any thing that may have even the semblance of rejoicing in iniquity. Reply something like this:

"My friend, he is a brother-editor; and it would be in very bad taste, to say the least, for me to undertake to right a matter of this kind. Even if it were *true* that the matter ought to be righted, I am not the one to do it."

There is another sort of rejoicing in iniquity, that comes in the line of collecting news for our daily and weekly papers. I once attended a convention or gathering of a county editor and his contributors. He gave them some advice in regard to the kind of news to look up. Said he in substance:

"Friends, please let us remember that the public are always greedy for any thing sensational. A case of poisoning, for instance, will attract great numbers of readers who have not looked at a paper for months; and we get quite a crop of *new subscribers* whenever any thing of this kind starts out, like poison, murder, bank robbery, etc."

You see how it is that the editor gets into a way of rejoicing in iniquity. Very soon his readers, also, learn to rejoice; and if the editor can not give them a dish of scandal, or something in that line, once in about so often, they complain that the paper is getting stale and dull, and may be they will not subscribe. How about the poor victims of the poisoning, murder, and scandal? How about the inmates who find a place in the county jail? Oh! that is a different thing; and I assure you, friends, it is a far different thing. As I visit the jail week after week, and meet one new comer after another, and take them by the hand, I almost always find the county paper spread out on the table before him. He has read what the cold unfeeling world has to say about him, and he gets a glimpse of the estimation in which he is held, and sees how people generally look down on him with feelings of disgust. To a certain extent that is right and proper, I admit. The way of the transgressor is hard, and it *ought* to be hard. I do not believe in screening transgressors from the law, nor from public opinion; but, O dear friends, we should take care, especially we who profess to be followers of Christ Jesus, that we do not in any way or sense rejoice in iniquity. We may rejoice that the guilty one is brought to justice; but we should think of him with feelings of sadness and sorrow, and never in the line of rejoicing.

And now, in conclusion, what is the remedy? What will help us to keep ourselves from rejoicing in iniquity? Let us read a

verse or two before and after the text I have been considering. Just before the text comes my favorite words, "Thinketh no evil;" and after the text we read, "But rejoice in the truth." Let us rejoice, dear friends, in the truth as exemplified in Christ Jesus—never in iniquity. The next verse reads: "Beareth all things, believeth all things, hopeth all things, endureth all things." What a contrast is such a spirit! Well, now I want to go back to my favorite chapter, the 6th of Luke, where we find a key to it all. Jesus says, "But I say unto you which hear, Love your enemies;" and further on, "Bless them that curse you, and pray for them that despitefully use you." If we only have the love of Christ in our hearts for all our fellow-men, there will be no danger of our rejoicing in any sort of iniquity. A good friend of mine once told me, when I was a boy, the reason why I could not remember, was because I did not *care* enough about the thing I forgot. I thought that was a pretty hard saying; but I was obliged to confess, after the experience of later years, that he was right. And now, my friends, the reason why we unconsciously fall into a way of rejoicing in iniquity is because we have not love enough in our hearts for humanity round about us. There is no use in evading it or in trying to dispute it. It is the lack of Christian spirit that prompts to all these things. If we smile a little, or feel a little bit pleased when our friends fall into iniquity, it indicates very plainly that we do not love them very much. But Jesus says it is not enough to love our *friends*—we must love our *enemies*. "What does that mean?" does somebody ask? Why, it means that you must rejoice at an opportunity of doing them good. Well, if we are watching for chances to do good, both to friends and enemies, how in the world shall we rejoice (even the least particle) when either friends or enemies get into trouble? It is the old story of loving self instead of humanity. Pride comes from self-love; and self-love and its legitimate fruit, pride, is the cause of almost all the trouble—yes, even the crime—in this world. No wonder that Jesus was so emphatic in that 6th chapter of Luke, in those wonderful verses from the 27th to the 46th, exhorting people to be liberal, to be above things that are selfish and little and mean. He says, "Do good and lend, hoping for nothing again, and your reward shall be great, and ye shall be called the children of the Highest." It requires an effort to rise above selfish thoughts and feelings, I know; but a reward comes right away when we do it.

A few days ago one of our boys came to me, after he had got his pay (it was Saturday), saying, "Mr. Root, I can't afford to work for you any longer for the pay I have been getting."

"All right, my friend," said I, instantly. "Let us be friends all the same, shall we not? even though you do work for somebody else." His next words were:

"Mr. Root, I have got another job where I can get better wages than you have been giving me."

I replied at once, "Can you? Well, I am glad to hear it, for I am always glad to know that any of the friends who work here have succeeded in doing better than I can afford to do by them. I suppose you have, of course, a steady job right along, winter and summer?"

He replied that he had. Then I added, "That is good; I am glad of it."

Now, this young friend occupied an important place, and it is right in our busy season, so it was a little hard to spare him; therefore it required something of an effort for me to say what I did, and say it truthfully; but I felt happy after having said it; and I am sure I shall never rejoice, even if he should be disappointed. In fact, he can have his place back again at any time if he chooses—that is, while we are as busy as we are now. And then think what it is worth, dear friends, to have pleasant feelings instead of unkind ones, between you and your fellow-men, when differences of this kind come up. Let us ask ourselves the question over and over again, "Am I in *any way* in danger of rejoicing in *any sort of iniquity*?"

TOBACCO COLUMN.

CONDITIONS UNDER WHICH WE GIVE SMOKERS TO PERSONS WHO STOP USING TOBACCO.

First, the candidate must be one of those who have given up tobacco in consequence of what he has seen and read in this department. Second, he promises to pay for the smoker should he ever resume the use of tobacco in any form, after receiving the smoker. Third, he must be a subscriber to GLEANINGS. Any subscriber may, however, have smokers sent to neighbors or personal acquaintances whom he has labored with on the matter of tobacco-using, providing he give us his pledge that, if the one who receives the smoker ever uses tobacco again, he (the subscriber) will pay for the smoker. The one who receives the smoker in this case need not be a subscriber to GLEANINGS, though we greatly prefer that he be one, because we think he would be strengthened by reading the testimonials from time to time in regard to this matter. The full name and address of every one who makes the promise must be furnished for publication.

ANOTHER FRIEND TAKES THE PLEDGE.

In reading the Tobacco Column I have decided to quit the use of tobacco. Please send me a smoker; and if I ever use it again I will pay for the smoker.
Barnard, Mo., Jan. 25. S. K. LANDEATHER.

ANOTHER BROTHER WHO IS REJOICING IN DELIVERANCE FROM THE SIN OF THE TOBACCO HABIT.

Friend R, as you are aware, I have been a subscriber to GLEANINGS for some time. My attention was called to the Tobacco Column; and the more I read, the more I wanted to read, and the query arose in my mind, "Can I be a Christian, and use tobacco?" Well, I studied about the matter considerably, and whenever GLEANINGS came to hand, the Tobacco Column was the first looked for, to see what other people were doing about it. I finally concluded that, if other people could quit, so could I. On the 13th day of Jan., 1890, the pipe and tobacco went, after using them ever since I was 6 years old. I am 39 now. By the help of my Savior I intend never to use them again. It was through your influence, Bro. R., that I quit. I feel better, both in body and mind, since quitting the use of tobacco. I don't want any smoker, for I have one. Hoping you will still keep up the strife against tobacco, I am truly yours,
A. J. MEREDITH.

Nettleton, Ark., Mar. 3.

May God bless you, dear brother, for your kind words, and especially for your full, frank testimony, freely given, to be used in print for the benefit and encouragement of others who are striving to do likewise. May the Lord be praised for such testimony!

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, OHIO.

TERMS: \$1.00 PER YEAR, POSTPAID.

For Clipping Rates, See First Page of Reading Matter.

MEDINA, APR. 15, 1890.

Do good to them which hate you.—LUKE 6:27.

"A YEAR AMONG THE BEES," REDUCED.

THE publishers of the above, T. G. Newman & Son, of Chicago, have reduced the price of that valuable and interesting little work from 75 to 50 cents, cloth bound. We will furnish it hereafter at that price.

TO OUR ADVERTISERS.

As we expect to close up our forms on the 4th day before date of publication, our advertisers must get in their copy or changes of advertisements as soon as the 11th and 26th of the month. A few of our patrons have been a little late.

MAKING HONEY-LABELS STICK TO TIN PAILS.

YEARS ago I decided that the only sure way was to have the label go clear around a pail or can. If, however, such a label is too expensive, put a band of nice-looking paper around the can and stick your label to it. Various recipes have been given, and perhaps some of them "stick." My experience is, however, that some if not all are liable to "let go" sooner or later. Washing the tin with an alkali, such as saleratus or soda water, so as to remove grease, helps materially. Adding honey or sugar to the paste, also helps. But where it is going to make serious trouble when the label comes off, I believe I should prefer a band of paper going clear around. If anybody knows of any thing better, we should be very glad to hear from him.

SENDING GOODS BY EXPRESS THAT MIGHT JUST AS WELL GO BY FREIGHT.

THE amount of money thrown away every day in sending and ordering hive stuff by express, when there is no immediate need of it, is appalling. A few days ago one of our bee-friends away down in Texas died. In order to settle up an account with us his good wife sent a foundation-mill, second-hand boiler and dipping-boards, 30 or 40 lbs. of wax, and other like goods, all by express. The express charges alone amounted to over \$10.00, while the freight would not have been over one-fourth of that amount. There was no urgent need of the goods at all, and yet no friend or neighbor, or even the express agent, saw fit to vouchsafe the information that such heavy, bulky goods, are never sent

BEESWAX WANTED.

Until further notice we will pay 25c cash, 28 cents in trade, for average wax delivered here. This is 1c per lb. higher than we have been paying. Selling price will be 31c for average, 35c for selected.

GRAPEVINES.

Now is the time for planting; and for immediate orders we can furnish strong two-year-old Concord vines, in lots of 100, for \$4.00. Our regular price in the price list is \$6.50. We give this low figure, as the vines must be moved if not sold soon.

EARLY PURITAN POTATOES.

Besides our own stock here of our own raising, we have 10 bushels in Crete, Neb. In order to dispose of them at once we will sell them for \$1.25 per bushel. They are worth here \$1.50. We offer them for \$1.25 on account of the expense of shipping such bulky goods so far.

MAPLE SUGAR.

We now have a good stock of maple sugar that we can furnish promptly. We grade it the same as in former years, at 11 cts. per lb. for No. 1; 10 cts. for No. 2; 9 cts. for No. 3, and 8 cts. for No. 4; ½ ct. less in 50-lb. lots; 1 c. less in barrel lots of 300 lbs. The greater part of our stock comes in the two middle grades, Nos. 2 and 3. We have a limited quantity of syrup in 1-gallon cans, at \$1.10 per gallon; or in 10-gallon lots at \$1.00.

IGNOTUM TOMATO SEED.

There, we have gone and done it again, just as we did with the Japanese buckwheat. We have paid more for the tomato-seed than we shall in all probability ever get back. As we have 15 or 20 lbs. of Ignotum seed still remaining on our hands, and the season for planting in most localities is pretty nearly at an end, for the rest of the season the price will be reduced to 50 cents per ounce, or \$6.00 per lb.; ¼ oz., 15 cents. Hundreds of testimonials seem to indicate that the world has never seen a better all-purpose tomato.

RED RASPBERRIES AS A HONEY-PLANT.

We have no idea that it will pay to raise red raspberries alone for honey, but we do think, notwithstanding, it would pay about as well to raise them for honey alone as almost any other plant, and when we add to this that it usually pays well for its beautiful fruit, we may call it one of the most promising honey-plants. For immediate orders, before we commence cultivating them, we will furnish either the Turner or Cuthbert for \$1.25 per 100, which is just one-half our usual prices. They can be sent by mail at an addition of 25 cts. per 100.

DOUBLE-TOP BROOD-FRAMES.

Since the publication of the article on page 204, March GLEANINGS, a number have inquired the price of the double-top brood-frame.

We will furnish them for 30 cts. per 100 more than our regular frames. They may be wired, metal cornered, or all wood. If you order them already put up, the price will be 50 cts. per 100 extra; in flat, 30 cts. per 100 extra. Where comb-guides are wanted, add 20 cts. extra per 100; but we would not advise the use of comb-guides with the double-top-bar frame.

VEGETABLE-PLANTS.

Our three greenhouses are now completely stocked, as close as the plants can stand, with cabbage, lettuce, celery, and tomato plants. A great part of the cabbage and lettuce is, however, now in the open air. Our boys and girls have got their arrangements so fixed that the plants are frequently in the mail-bags within one hour from the time they were taken out of the ground. As fast as the letters are opened, the plant orders are put in a separate place for me to carry to the boys in the greenhouse. Thus you see they catch each train as it passes our establishment, within a few hours after the order reached us. We have a full supply of every thing except pepper-plants and cauliflower. These have acted kind o' contrary this spring, and we have none yet that I call fit to send out.

SECOND-HAND FOUNDATION MILLS.

We have the following second-hand foundation mills to dispose of: One 10-inch mill for \$15.00; has

been used almost none. It was made two or three years ago, and, of course, is not equal to a new mill made now, but a bargain at the price—\$15.00. One 10-inch mill, \$11.00. This mill has been used considerably; was made a number of years ago. It will still make fair foundation where you make principally for your own use, and are not particular about its being first class. It is surely worth \$11.00 to someone.

We have a second-hand 10-inch dipping-tank, with 4 boards, that we will sell with either of the above for \$1.00. One 12-inch Dunham mill. This was originally used by Dadant & Son in making their heavy brood foundation. It has made about 200 lbs. since it left their hands (when it sold for \$25.00), and it is still in fair condition; will sell for \$20.00.

SAWS THAT NEVER NEED FILLING.

Ever since we first gave notice of the Star saws, some years ago, the blades of which were sold so cheap that a new one could be put in cheaper than to have a saw filed, there has been an immense trade in them. The Millers Falls Co. have recently got out the saw shown in the cut below, that takes



a 14-inch blade, and yet the price is only 50 cts.—saw, blade, and all. Extra blades cost a dollar a dozen; therefore, when your saw needs sharpening it costs less than 10 cts. to have a bright new blade, ready for business. And this is not all. These Star saw-blades, by some special process, are given a higher temper than anything else in the saw line. You can saw a board or a bone, saw off a gas-pipe or a gun-barrel, and all with the same saw. The first one I ever saw I carried down into our machine shop, gave it to our machinist, and told him to see what it was worth. After a few minutes' trial he asked the price and handed out the money, without a word. The truth is, he had never seen any thing like it before, for sawing iron and steel. The one we picture is made a specialty, to be hung up in the kitchen; and I rather think, my friend, you can not make your wife a better present than to get her one of these saws, to hang up in her kitchen. If you behave yourself, may be she will lend it to you occasionally; but, be sure to bring it back when you are done with it. If you don't, there may be a family jar. If wanted by mail, the price will be 20c extra. Postage on blades, 10c per doz. Star butcher saws have been reduced in price. See page 42 of our latest price list.

CONVENTION NOTICES.

The Capital Bee-keepers' Association will meet in the Supervisor's Room of the Court-house, Springfield, Ill., May 7, 1890, at 10 A.M. All interested are invited. C. E. YOCUM, Sec'y.

A meeting of the Erie Co., N. Y., Bee-keepers' Association will be held in Hamburg, N. Y., April 19, at 10 A.M. and 1 P.M. MRS. CHAS. FAYILLE, Sec'y.

PRICE LISTS RECEIVED.

We have received price lists of bees, queens, hives, etc., from the following parties:

A. D. Ellingwood, Milan, N. H.
C. H. Dibbern & Son, Milan, Ill.
A. Hunt, Gorion, Darke Co., O.
C. F. Muth & Son, Cincinnati, O.
F. A. Lockhart & Co., Pattens Mills, N. Y.
D. Kauffman, Needy, Oregon.
F. A. Eaton, Bluffton, Allen Co., O.
J. W. Clark, Clarksburg, Mo.
G. B. & Katie Replogle, Centerville, Ia.
Mrs. A. M. (Taylor) Kneeland, Mulberry Grove, Ill.
W. H. Bright, Mazepa, Minn.
Oceanside Mill Co., Oceanside, Cal.
H. H. Brown, Light Street, Pa.
E. T. Abbott, St. Joseph, Mo.
W. S. Vandruft, Waynesburg, Pa.
W. W. Bliss, Duarte, Cal.
J. Van Deusen & Sons, Sprout Brook, N. Y.
L. J. Tripp, Kalamazoo, Mich.
We have also just printed price lists for Nimshi Nuzum, of Boothsville, W. Va.; M. D. Johnson, Webster, Ia.; A. L. Swinson, Goldsboro, N. C.; Wm. Hutchison, Benton, Ill.; F. H. & H. H. Dewey, Westfield, Mass.

I WISH TO SELL

my entire stock of Supplies, Bees, and Hives. to one purchaser, or I will sell singly. Apiary, Malden, Mass. Send stamp for particulars.
8-9d S. A. FISHER, 15 Congress St., Boston, Mass.

PURE HONEY & WAX BOUGHT AND SOLD.

6-7-8d **HOGG & PHIPPS,**
264 Willoughby Ave., Brooklyn, N. Y.

In responding to this advertisement mention GLEANINGS.

300 Swarms of Bees for Sale.

1000 Queens; 2000 pounds Bees; 500 Nuclei; 2000 Excelsior Hives; holds 8 Simplicity frames; 100,000 One-Piece Sections; 2000 lbs. Comb Foundation, and every thing needed in the bee business, at rock-bottom prices. Send for our 8th annual price list of 1890.
R. E. SMITH,
Tilbury Center, Ont., Can.

In responding to this advertisement mention GLEANINGS.

THE BRIGHTEST

Five-banded, golden Italian Bees and Queens, and the **Reddest Drones**. Very gentle; very prolific; good honey-gatherers—working on red clover—and the **Most Beautiful** bees in existence! Took 1st premium at Michigan State Fair, in 1889. Reference, as to purity of stock, Editor of *Review*. Sample of bees, five cents. Untested queens, before June 15, \$1.25; after June 15, \$1.00. Tested (3 bands), \$2.00; selected, tested (4 bands), \$3.00; breeding queens (4 to 5 bands), \$5.00. Virgin queens, 50 cts.; 5 for \$2.00. Safe arrival and satisfaction guaranteed.
JACOB T. TIMPE,
Grand Ledge, Mich.

In responding to this advertisement mention GLEANINGS.

BEEES

16tfdb SEND for a free sample copy of the BEE JOURNAL—16-page Weekly at \$1 a year—the oldest, largest and cheapest Weekly bee-paper. Address BEE JOURNAL, Chicago, Ill.

UNTESTED ITALIAN QUEENS AT \$1, and 4-frame nuclei at \$3.50, after May 1st. Send in orders now.
4-10db S. J. WAKEFIELD, Autreville, S. C.

MUTH'S HONEY - EXTRACTOR,

SQUARE GLASS HONEY-JARS,
TIN BUCKETS, BEE-HIVES, HONEY-SECTIONS, &c., &c.
PERFECTION COLD-BLAST SMOKERS.

Apply to **CHAS. F. MUTH & SON,**
Cincinnati, Ohio.

P. S.—Send 10-cent stamp for "Practical Hints to Bee-keepers." *Mention Gleanings.* 1tfdb

COMB FOUNDATION.

I have just purchased two more foundation-machines of A. I. Root, and am able now to make foundation of all kinds at the lowest price in the world. Send for sample or price, to
8d JACOB WOLLERSKEIM, Kaukauna, Wis.

SEND to E. J. Shay, Thornton, Taylor Co., W. Va., for SIMPLICITY HIVES, Frames, etc., both in the flat and set up. 8d

LOOK HERE, FRIENDS.

If you are in any way in want of choice Italian or Albino bees, and wish to save money, do not fail to write your name and address plainly on a postal, and get my prices for 1890, before purchasing. Address
8d W. J. HILLMAN, GREEN RIVER, VT.

VIRGIN QUEENS.

Pure Virgin queens at 50 cts. each, or 40 cts. each per 100. J. B. LAMONTAGUE, Winter Park, Fla. 8-9-10

Queens Ready to Mail

now, and we guarantee safe arrival in any kind of weather. Italian queens, tested, \$2.00; untested, \$1.00; 3 untested, \$2.75. Send for dozen rates. Two-frame nuclei with untested queen, \$2.50; \$26.00 per dozen in April. Make money orders payable at Clifton. Send for price list to

COLWICK & COLWICK, Norse, Bosque Co., Texas.

In responding to this advertisement mention GLEANINGS.

ITALIANS

For pure Italian bees and queens, and directions to Italianize common bees, address F. H. & E. H. DEWEY,
55 Mechanic St., Westfield, Mass.

ITALIAN QUEENS AND BEES!

The very best honey-gatherers. Untested queen, 80c; tested, \$1.00; select, \$1.50. Bees, \$1.25 per lb. Satisfaction guaranteed. Send for price list.
8-10-12d C. M. HICKS, Fairview, Wash. Co., Md.

THREE-FRAME NUCLEI,

with queen, \$2.25 each, or two for \$4.00. Orders booked now for delivery after May 15. Safe arrival guaranteed. Frames, 12 $\frac{1}{4}$ x 9 $\frac{1}{4}$. H. L. FISHER,
8-9-10d Milford, Kosciusko Co., Ind.

In responding to this advertisement mention GLEANINGS.

50 COLONIES OF ITALIAN BEES for sale, in Langstroth hives, at \$5.00 per colony.
8-9-10d JOHN GRANT, Batavia, Clermont Co., Ohio.

ITALIAN QUEENS FOR 1890.

Before you purchase, look to your interest and send for price list.
LEININGER BROS.,
8tfdb Douglas, Putnam Co., Ohio.

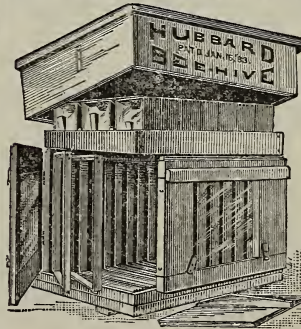
HOLY-LAND QUEENS A SPECIALTY.
Queens at all prices, to suit the times.
GEO. D. RAUDENBUSH,
445 Chestnut St., Reading, Pa.

LET US HAVE FAIR PLAY,

is all we ask. We know you will like our Carniolan bees, because we breed from **Pure Imported Stock**. Queens, \$1.00 in June. Give them a **Fair Trial**. Send for printed matter free. Safe arrival. Address **E. L. PRATT,**
8-11db Pratt Bee-Farm, Marlboro, Mass.

In responding to this advertisement mention GLEANINGS.

FORT WAYNE, IND.



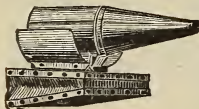
CIRCULARS FREE.

ASK FOR SAMPLE ONE-PIECE SECTION IF YOU WANT IT.

G. K. HUBBARD,
277 S. HARRISON ST.,
FT. WAYNE, IND.

If you are ever annoyed by the scraping and breaking of combs; killing bees when setting a frame to one side, or hanging it in the hive; sagging at the bottom and getting waxed fast; shaking about when moving a hive; in short, if you dislike to pry and wrench your frames, break combs, and kill bees while handling them, you will be pleased with this hive.

VERY CONVENIENT. AGENTS WANTED.
10 For "1st Principles in Bee Culture." It tells how to Divide, Transfer, Introduce Queens, Feed, Unite, Stop Robbing, &c. Money returned upon return of book, if you are not satisfied.
In responding to this advertisement mention GLEANINGS.

BEST ON EARTH

ELEVEN YEARS
WITHOUT A
PARALLEL, AND
THE STAND-
ARD IN EVERY
CIVILIZED
COUNTRY.



**Bingham & Hetherington
Patent Uncapping-Knife,
Standard Size.**

Bingham's Patent Smokers,

Six Sizes and Prices.

Doctor Smoker,	3 1/2 in.,	postpaid	...\$2.00
Conqueror "	3 "	"	... 1.75
Large "	2 1/2 "	"	... 1.50
Extra (wide shield)	2 "	"	... 1.25
Plain (narrow "	2 "	"	... 1.00
Little Wonder,	1 1/4 "	"65
Uncapping Knife.....			... 1.15

Sent promptly on receipt of price. To sell again, send for dozen and half-dozen rates.

Milledgeville, Ill., March 8, 1890.

SIRS:—Smokers received to-day, and count correctly. Am ready for orders. If others feel as I do your trade will boom. Truly, F. A. SNELL.

Vermillion, S. Dak., Feb. 17, 1890.

SIRS:—I consider your smokers the best made for any purpose. I have had 15 years' experience with 300 or 400 swarms of bees, and know whereof I speak. Very truly, R. A. MORGAN.

Sarahsville, Ohio, March 12, 1890.

SIRS:—The smoker I have has done good service since 1883. Yours truly, DANIEL BROTHERS.

Send for descriptive circular and testimonials to 1tfdB **BINGHAM & HETHERINGTON, Abronia, Mich.**

In responding to this advertisement mention GLEANINGS.

FOR SALE.—ITALIAN BEES & QUEENS

at a very low price. Address 6tfdB **OTTO KLEINOW,**
No. 150 Military Ave., Detroit, Mich.

✖ CHOICE ITALIAN QUEENS. ✖

Tested, \$1.50. Untested, \$1.00. Tested queens reared in the fall of '89, \$1.50. These can be mailed at once. MISSES S. & M. BARNES,
7-12db Piketon, Ohio.

In responding to this advertisement mention GLEANINGS.

OWING to rising prices of beeswax we now quote an **Advance of 5 cts.** on comb foundation over February prices, both wholesale and retail. **Beeswax Wanted** in any quantity. 6-7 8d **DADANT & SON, Hamilton, Hancock Co., Ill.**

H. G. FRAME, NORTH MANCHESTER, INDIANA,
Breeder of Italian and Carniolan Queens. Bees by the pound and nucleus. Price list free.
5tfdB Reference First National Bank.

BEAUTIFUL BEES are always pleasing to the eye.
GOOD QUALITIES are always profitable.

If you want Bees and Queens that combine beauty and good qualities to a marked degree, write for circular giving low prices. No circulars sent out unless applied for. **CHAS. D. DUVAL,**
5tfdB **Spencerville, Mont. Co., Md.**

In responding to this advertisement mention GLEANINGS.

STRAWBERRY-PLANTS.

A No. 1 plants, true to name, from new ground. Jessie and Bubach, 75c per hundred, \$5.00 per thousand. Crescent and Sharpless, 50c per hundred, \$3.00 per thousand. By mail, add 20c per hundred for postage. **F. S. McCLELLAND & BRO.,**
6d **Box 379, New Brighton, Pa.**

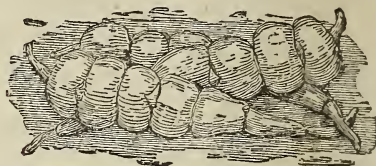
In responding to this advertisement mention GLEANINGS.

The Bee-Keepers' REVIEW

A 50-cent monthly that gives the cream of apicultural literature; points out errors and fallacious ideas; and gives, each month, the views of leading bee-keepers upon some special topic. Three samples free. Send for them, and learn how to get the back numbers cheaply.

W. Z. HUTCHINSON, Flint, Mich.

RARE! NOVEL! GOOD! CHEAP!



A meritorious novelty, white as snow, first-rate eating, easily grown and kept, wonderfully productive. *Free catalogue* has fuller description of it, and prices (low) of Novelties and standards in SEEDS and PLANTS, also QUEENS. Send 30c for 5 tubers of STACHYS, as above; a root of the beautiful fragrant CINNAMON VINE, which grows up rapidly each spring; a packet of POWELL'S, the most productive pole bean; of HONEY, a choice sweet corn; of FLOWER SEEDS, over 100 varieties, mixed, and a small tuber of POOTATUCK, a fine new early potato. All postpaid for only 30c. Five collections for \$1.00.

CHRISTIAN WECKESSER, Marshallville, O.

Mention this paper.

6-7d

SUPPLIES!

Send for circular—free. **WALTER S. POWDER,**
175 E. Walnut St., Indianapolis, Ind.
5tfdB (Successor to F. L. Dougherty.)

In responding to this advertisement mention GLEANINGS.

HOME EMPLOYMENT.—AGENTS wanted everywhere, for the **HOME JOURNAL**—a grand family paper at \$1 a year. *Big cash premiums.* Sample FREE. **THOS. G. NEWMAN & SON,**
246 East Madison Street, - - CHICAGO, ILLS.

"HANDLING BEES." Price 8 Cts.

A chapter from "The Hive and Honey Bee, Revised," treating of taming and handling bees; just the thing for beginners. Circular, with advice to beginners, samples of foundation, etc., free.

5tfdB **CHAS. DADANT & SON,**

Hamilton, Hancock Co., Illinois.

In responding to this advertisement mention GLEANINGS.

FOR PURE ITALIAN BEES, POLAND-
China Swine, White and Black Ferrets, White Rabbits, White and Brown Leghorn Chickens, and Mallard Ducks. Address **N. A. KNAPP,**
4tfdB **Rochester, Lorain Co., Ohio.**

In responding to this advertisement mention GLEANINGS.

FOR FOLDING PAPER BOXES send to
21-8db **A. O. CRAWFORD, S. Weymouth, Mass.**

SECTIONS! SECTIONS! SECTIONS!

On and after Feb. 1, 1890, we will sell our No. 1 V-groove sections, in lots of 500, as follows: Less than 2000, \$3.50 per 1000; 2000 to 5000, \$3.00 per 1000. Write for special prices on larger quantities. No. 2 sections at \$2.00 per 1000. Send for price list on hives, foundation, cases, etc.

J. STAUFFER & SONS,
16-tfdB Successors to B. J. Miller & Co.,
Nappanee, Ind.

In responding to this advertisement mention GLEANINGS.

GLEANINGS IN BEE CULTURE.

Books for Bee-Keepers and Others.

Any of these books on which postage is not given will be forwarded by mail, *postpaid*, on receipt of price.

In buying books, as every thing else, we are liable to disappointment, if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them for sale, it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage shall not be disappointed, and therefore I am going to try to prevent it by mentioning all the faults so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve I have marked with a *; those I *especially* approve, **; those that are not up to times, †; books that contain but little matter for the price, large type, and much space between the lines, ‡; foreign, §.

BIBLES, HYMN-BOOKS, AND OTHER GOOD BOOKS.

- | | |
|---|------|
| 8 Bible, <i>good print</i> , neatly bound..... | 25 |
| 10 Bunyan's Pilgrim's Progress**..... | 35 |
| 6 First Steps for Little Feet. By the author of the Story of the Bible. A better book for young children can not be found in the whole round of literature, and at the same time there can hardly be found a more attractive book. Beautifully bound, and fully illustrated. Price 50c. Two copies will be sold for 75 cents. Postage six cents each. | |
| 5 Harmony of the Gospels..... | 35 |
| 3 John Ploughman's Talks and Pictures, by Rev. C. H. Spurgeon*..... | 10 |
| 1 Gospel Hymns, consolidated Nos. 1, 2, 3 and 4, words only, cloth, 10c; paper..... | 05 |
| 2 Same, board covers..... | 20 |
| 5 Same, words and music, small type, board covers..... | 45 |
| 10 Same, words and music, board covers..... | 75 |
| 3 New Testament in pretty flexible covers..... | 05 |
| 5 New Testament, new version, paper cover..... | 20 |
| 5 Robinson Crusoe, paper cover..... | 20 |
| 15 Story of the Bible**..... | 1 00 |
| A large book of 700 pages, and 274 illustrations. Will be read by almost every child. | |
| 5 The Christian's Secret of a Happy Life**..... | 25 |
| 8 Same in cloth binding..... | 50 |
| 1 "The Life of Trust," by Geo. Muller**..... | 1 25 |
| 1 Ten Nights in a Bar Room, by T. S. Arthur*..... | 03 |

BOOKS ESPECIALLY FOR BEE-KEEPERS.

As many of the bee-books are sent with other goods by freight or express, incurring no postage, we give prices separately. You will notice, that you can judge of the size of the books very well, by the amount required for postage on each.

- | | |
|---|------|
| 12 A B C of Bee Culture** Paper..... | 85 |
| 15 A B C of Bee Culture** Cloth..... | 1 10 |
| 5 A Year Among the Bees, by C. C. Miller **..... | 70 |
| 14 Bees and Bee-keeping, by Frank Cheshire, England, Vol. I, **§..... | 2 36 |
| 21 Same, Vol. II, **§..... | 2 79 |
| or, \$5.25 for the two, postpaid. | |
| 15 Bees and Honey, by T. G. Newman..... | 1 00 |
| 5 Cook's New Manual ** Cloth..... | 1 35 |
| 5 Doolittle on Queen Rearing**..... | 95 |
| 2 Dzierzon Theory**..... | 10 |
| 1 Foul Brood; Its management and cure; D. A. Jones**..... | 09 |
| 1 Honey as Food and Medicine..... | 5 |
| 15 Langstroth on the Hive and Honey-Bee*** | 1 40 |
| 15 Langstroth Revised, by Ch. Dadant & Son**..... | 1 85 |
| 10 Quinby's New Bee-Keeping**..... | 1 40 |
| 10 Queen-Rearing, by H. Alley*..... | 1 00 |
| 4 Success in Bee Culture, by James Heddon*..... | 46 |
| The Production of Comb Honey, by W. Z. Hutchinson**..... | |
| The Apiary; or, Bees, Bee-Hives, and Bee Culture, by Geo. Neighbour & Sons, England*..... | |
| British Bee-Keeper's Guide - Book, by Thos. Wm. Cowan, Esq., England*§..... | |
| 3 Merrybanks and His Neighbor, by A. I. Root..... | 25 |

MISCELLANEOUS HAND-BOOKS.

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| 5 A B C of Carp Culture, **..... | 35 |
| 3 A B C of Potato Culture, Terry**..... | 35 |
| This is T. B. Terry's first and most masterly work. The book has had an enormous sale, and has been reprinted in foreign languages. When we are thoroughly conversant with friend Terry's system of raising potatoes, we shall be ready to handle almost any farm crop successfully. It has 48 pages and 22 illustrations. | |
| 5 An Egg-Farm, Stoddard**..... | 45 |
| 5 Barn Plans and Out-Buildings*..... | 1 50 |
| 5 Cranberry Culture, White's..... | 1 25 |
| 5 Canary Birds; paper, 50c; cloth*..... | 75 |
| 5 Draining for Profit and Health, Warring..... | 1 50 |
| 5 Eclectic Manual of Phonography; Pitman's System; cloth..... | 50 |
| 6 Fuller's Practical Forestry†..... | 1 40 |
| 10 Fuller's Grape Culturist**..... | 1 40 |

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| 10 Farming For Boys*..... | 1 15 |
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This is one of Joseph Harris' happiest productions, and it seems to me that it ought to make farming as fascinating to any boy who has any sort of taste for gardening.

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| 7 Farm, Gardening, and Seed-Growing**..... | 90 |
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This is by Francis Brill, the veteran seed-grower, and is the only book on gardening that I am aware of that tells how market-gardeners and seed-growers raise and harvest their own seeds. It has 166 pages.

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| 10 Gardening for Pleasure, Henderson*..... | 1 40 |
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While "Gardening for Profit" is written with a view of making gardening pay, it touches a good deal on the pleasure part; and "Gardening for Pleasure" takes up this matter of beautifying your homes and improving your grounds, without the special point in view of making money out of it. I think most of you will need this if you get "Gardening for Profit." This work has 246 pages and 134 illustrations.

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| 12 Gardening for Profit, new edition**..... | 1 85 |
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This is a late revision of Peter Henderson's celebrated work. Nothing that has ever before been put in print has done so much toward making market-gardening a science and a fascinating industry. Peter Henderson stands at the head, without question, although we have many other books on these rural employments. If you can get but one book, let it be the above. It has 376 pages and 138 cuts.

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|--|------|
| 1 Gardening for Young and Old, Harris**..... | 1 25 |
|--|------|

This is Joseph Harris' best and happiest effort. Although it goes over the same ground occupied by Peter Henderson, it particularly emphasizes thorough cultivation of the soil in preparation for the great end, and this is the matter of adapting it to young people as well as to old is brought out in a most happy vein. If your children have any sort of fancy for gardening it will pay you to make them a present of this book. It has 187 pages and 46 engravings.

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|---|------|
| 10 Garden and Farm Topics, Henderson**..... | 75 |
| 5 Gray's School and Field Book of Botany..... | 1 80 |
| 5 Gregory on Cabbages; paper*..... | 25 |
| 5 Gregory on Squashes; paper*..... | 25 |
| 5 Gregory on Onions; paper*..... | 25 |

The above three books, by our friend Gregory, are all valuable. The book on squashes especially is good reading for almost anybody, whether they raise squashes or not. It strikes at the very foundation of success in almost any kind of business.

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|--|------|
| 10 Household Conveniences..... | 1 40 |
| 2 How to Propagate and Grow Fruit, Greer*..... | 25 |
| 5 How to Make Candy**..... | 45 |
| 10 How to Keep Store*..... | 1 00 |
| 2 Injurious Insects, Cook..... | 25 |
| 10 Irrigation for the Farm, Garden, and Orchard, Stewart*..... | 1 40 |

This book, so far as I am informed, is almost the only work on this matter that is attracting so much interest, especially recently. Using water from springs, brooks, or windmills, to take the place of rain, during our great droughts, is the great problem before us at the present day. The book has 274 pages and 142 cuts.

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|---|------|
| 10 Money in the Garden, Quinn*..... | 1 40 |
| 3 Maple Sugar and the Sugar-Bush, **..... | 35 |

By Prof. A. J. Cook. This was written in the spring of 1887, at my request. As the author has, perhaps, one of the finest sugar-camps in the United States, as well as being an enthusiastic lover of all farm industries, he is better fitted, perhaps, to handle the subject than any other man. The book is written in Prof. Cook's happy style, combining wholesome moral lessons with the latest and best method of managing to get the finest sugar and maple syrup, with the least possible expenditure of cash and labor. Everybody who makes sugar or molasses wants the sugar-book. It has 42 pages and 35 cuts.

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| 1 Poultry for Pleasure and Profit**..... | 10 |
| 11 Practical Floriculture, Henderson*..... | 1 35 |
| 5 Peach Culture, Fulton's..... | 1 50 |
| 10 Profits in Poultry*..... | 90 |
| 2 Silk and the Silkworm..... | 10 |
| 10 Small-Fruit Culturist, Fuller*..... | 1 40 |
| 10 Success in Market-Gardening*..... | 90 |

This is new book by a real, live, enterprising, successful market-gardener who lives in Arlington, a suburb of Boston, Mass. Friend Rawson has been one of the foremost to make irrigation a practical success, and he now irrigates his grounds by means of a windmill and steam-engine whenever a drought threatens to injure the crops. The book has 208 pages, and is nicely illustrated with 110 engravings.

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|---|------|
| 1 The Silo and Ensilage, by Prof. Cook, new edition, fully illustrated..... | 20 |
| 5 Strawberry Culturist, Fuller*..... | 20 |
| 1 Talks on Manures*..... | 1 75 |

This book, by Joseph Harris is, perhaps, the most comprehensive one we have on the subject, and the whole matter is considered by an able writer. It contains 366 pages.

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|---|----|
| 2 The Carpenter's Steel Square and its Uses; Hodgson; Abridged..... | 15 |
| 10 The New Agriculture, or the Waters Led Captive..... | 75 |
| 2 Treatise on the Horse and his Diseases..... | 10 |
| 3 Winter Care of Horses and Cattle..... | 40 |

This is friend Terry's second book in regard to farm matters; but it is so intimately connected with his potato-book that it reads almost like a sequel to it. If you have only a horse or a cow, I think it will pay you to invest in the book. It has 44 pages, and 4 cuts.

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|--|----|
| 8 What to Do, and How to be Happy While Doing It, by A. I. Root..... | 50 |
| 3 Wood's Common Objects of the Microscope**..... | 47 |

Address your orders to

A. I. ROOT, Medina, O.

SEE OUR PRICES.

(We do not publish them here, but they are low.)

—THE W. T. FALCONER MFG. CO.,—

—JAMESTOWN, N. Y.,—

Manufactures all **STYLES** of **HIVES**, **SECTIONS**, **SHIPPING-CRATES**, Etc. Also Dealers in **BEE-KEEPERS' SUPPLIES** of all Kinds. A **LARGE STOCK** kept constantly on Hand, Ensuring **PROMPT SHIPMENT**.

—SEND LIST OF WANTS, FOR SPECIAL ESTIMATE.—

—WE CAN NOT BE UNDERSOLD.—

—NEW ILLUSTRATED * CATALOGUE * AND * PRICE * LIST * FREE.—

Drop us a Card with Your Name on. Mention Gleanings.

REMOVED, from Coburg, to RED OAK, IOWA, my entire factory for
BEE SUPPLIES. We have the largest steam-power shops in the West, exclusively used to make **EVERYTHING** needed in the Apiary, of practical construction and at the **LOWEST PRICES**. Italian bees, queens, 12 styles of Hives; Sections, Honey-Extractors, Bee-Smokers, Feeders, Comb Foundation, and everything used by bee-keepers, always on hand.
 Address **E. KRETCHMER, Red Oak, Iowa.**
 40-page Illustrated Catalogue FREE TO ALL.
 In responding to this advertisement mention GLEANINGS.

The Ullmann & Philpott Mfg. Co.,

89-93 MERWIN ST., CLEVELAND, O.

Manufacturers of Fine Black and Colored

PRINTING INKS.

This Journal is Printed with our Inks.
 Mention Gleanings. 24-22d

LOOK HERE!

Bee-Keepers and Fruit-Growers, before you order your supplies for 1890, send for my catalogue and price list of **Bee-Keepers' Supplies** and **Strawberry Plants**. Twenty-five approved varieties grown for this season's trade. Prices reasonable. **Bees and Queens** for sale: \$1.00 queens a specialty. Address **F. W. LAMM, 24-23db (Box 106.) Somerville, Butler Co., Ohio.**
 In responding to this advertisement mention

Ho! Ye in Dixie Land!

LEARN SOMETHING NEW

Of Interest to You in my New 1890 Catalogue

Enlarged, and prices reduced. It gives **LOW SPECIAL FREIGHT RATES** to many Southern points, especially to points in **TEXAS**.

*Southern Bee-Keepers, Send for it NOW.**

J. M. JENKINS, - Wetumpka, Ala.

Established 1878.

SMITH & SMITH,

Wholesale and Retail Manufacturers of

BEE-KEEPERS' SUPPLIES.

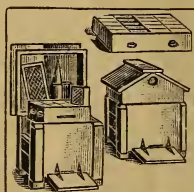
KENTON, OHIO.

Price List Free.

Mention Gleanings.



Eaton's Improved SECTION CASE. BEES AND QUEENS. Send for free catalogue. Address **FRANK A. EATON, 2-13db Bluffton, Ohio.**
 In responding to this advertisement mention GLEANINGS.



HILTON'S Improved Chaff Hive AND T SUPER.

The pamphlet: "How I Produce Comb Honey." Price 5 cts. Send for free illustrated price list of everything needed in the apiary.

GEO. E. HILTON, 5-10db Fremont, Mich.
 In responding to this advertisement mention GLEANINGS.

SAVE FREIGHT.

BUY YOUR SUPPLIES NEAR HOME AND SAVE FREIGHT.

We carry a complete stock of **Apiarian Supplies**. Our motto: Good goods and low prices. Illustrated catalogue for your name on a postal card 23-10db

R. B. LEAHY & CO., Higginsville, Mo.
 In responding to this advertisement mention GLEANINGS.

BEE-HIVES, SECTIONS, ETC.

We make the **BEST** Bee-Hives, Shipping-Crates, Sections, etc., in the world, and sell them the cheapest. We are offering our choicest white one-piece $4\frac{1}{4} \times 4\frac{1}{4}$ sections, in lots of 500, at \$3.50 per 1000.

Parties wanting more should write for special prices. No. 2 sections, \$2.00 per 1000. Catalogues free, but sent only when ordered. 1tfdb

C. B. LEWIS & CO., Watertown, Wis.
 In responding to this advertisement mention GLEANINGS.

SECTIONS, \$3 PER 1000.

Foundation, Alsike clover seed, and Japanese buckwheat, cheap as the cheapest. Special prices to dealers. Send for our **FREE PRICE LIST.** **M. H. HUNT, Bell Branch, Mich.**

Please mention GLEANINGS. 1tfdb
 In responding to this advertisement mention GLEANINGS.

Bees AND Poultry

The Canadian Bee Journal and Poultry Weekly is the best paper extant devoted to these specialties. 24 pages, WEEKLY, at \$1.00 per year. Live, practical, interesting. Nothing stale in its columns. Specimen copies free. Subscribers paying in advance are entitled to two insertions of a five-line adv't (40 words) in the Exchange and Mart column. **THE D. A. JONES CO., BEETON, ONTARIO, CAN.**